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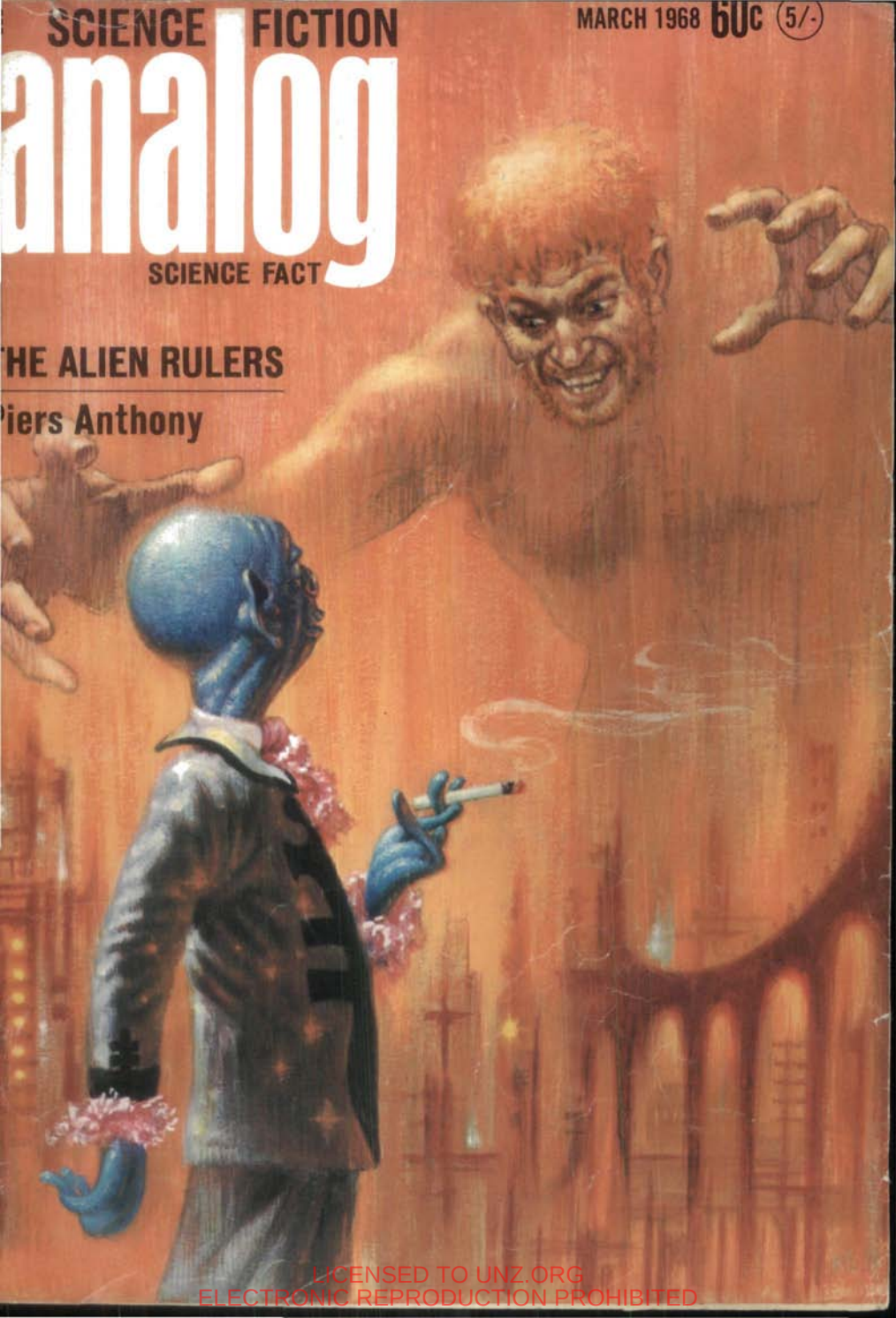
THE ALIEN RULERS

Piers Anthony



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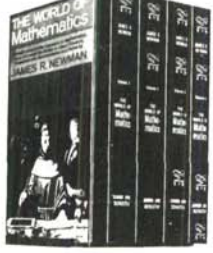

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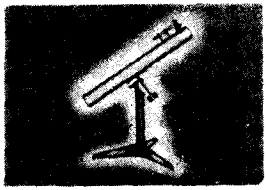

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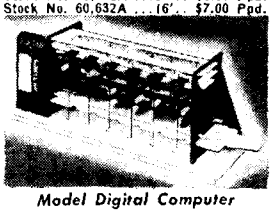

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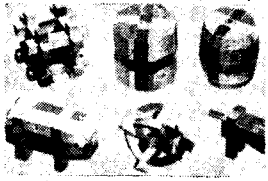

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long delayed recognition

An editorial by John W. Campbell

For the past dozen years, Analog has been persistently—and as loudly as possible—calling attention to the fact that DOWSING WORKS.

For the last hundred or more years, science has loudly ridiculed the very idea of any such superstitious nonsense—such impossible balderdash . . . without making adequate pragmatic investigations.

True—they have repeatedly made investigations under conditions *they* considered "right and proper controlled laboratory conditions." But they would not study the phenomenon in its native habitat, under the conditions wherein the phenomenon exists. You can prove fish can't really live, too, by examining them under "right and proper laboratory conditions," in good, clear air, with none of that tricky, concealing water around them that's really just being used to hide the rods and wires that make that hoax possible.

And photography's a hoax, too; as soon as you demand that the "photographer" carry out his process under decent illumination, so his sleight-of-hand tricks can't be concealed from view, the whole fraud collapses.

Dowsing depends on a subjective phenomenon—purpose, motivation—which Science, by its own definitions, specifically excludes. The

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"purely objective" approach, which is the ideal and the basis of the Scientific Investigation, just happens to be one hundred percent denial of the fundamental process involved in dowsing. It's like trying to make a scientifically objective analysis of the nature of Love—and I do *not* mean sex. Sex is the poor, shallow, almost meaningless remnant an "objective scientist" can record if he studies love.

There are, have been, and always will be phenomena in the real world that can no more be studied adequately by the "purely objective scientific method" than a magnetic field can be analyzed by chemical methods.

This is *not* to say that objective methods are of no value—any more than I am saying chemical analytical methods are valueless.

What I am saying is that *any defined technique must have limitations implicit in that definition.* Since the essence of scientific methodology is precision of definition and of measurement; it inherently is a *limited* technique.

A microscope is a magnificent tool—but you'll never see an electrostatic field with it. A lathe is one of the most powerful and versatile tools Man ever invented—but you can't build a log cabin with it.

The objective scientific method is one of the most powerful tools Mankind has yet invented—but there are problems for which it is as intrinsically unsuited as a Saturn V for the problem of daily commutation to the local city.

When the problem of dowsing comes up—the scientific objectivity technique simply isn't applicable. And will you who are professional scientists *please* recognize that that is *not* a denial of the value of science or scientific technique—it's a denial of its APPLICABILITY IN THIS AREA.

Scientists have long been aware that the scientific objective method simply will not work in defining "beauty," "pleasure," "art," as well as the non-endocrine-gland aspects of emotion—which are, of course, all the *real* meaning of emotions.

In dowsing we're simply dealing with one additional field that requires a different type of analytical approach.

For years, I have given talks in many places, to many groups, about the reality of dowsing for locating pipes and such underground. For years I have heard from the audiences that they know of that use of the rods. For instance, I gave a talk in Amherst, Massachusetts, and learned from several people that the town water department crews use the rods to find their pipes—tracing them across the campuses of the University of Massachusetts and Amherst College. Since such work is quite public, it's been well known to the people of both schools.

Neither group made any investigation whatever of the pragmatic

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use of an officially rejected technique on their own grounds.

That's standard, though; Yale didn't investigate their use by the New Haven water department; Princeton didn't look into their use by the Princeton public utilities. I don't happen to have data on how many other major schools and universities closed their eyes to the routine use of an effective engineering tool.

Because utility field crews were using the rods for one and only one reason; they worked. Those men had absolutely nothing to prove, no theory to establish or to maintain. They simply had a job that had to be done, and was darned difficult without the rods, but easy with them. So they used that-which-worked.

In the last twelve months, a major breakthrough has occurred. Again, a group of men with a dirty, dangerous job that's got to be done found an engineering tool that worked and started using it.

The dowsing rods are now being used by the U.S. Marines—*officially* being used by the Marines—for locating Viet Cong tunnels, weapons caches, hidey-holes and even those wicked bamboo-stake booby traps Charlie loves so well.

No known objective-science device was capable of detecting the bamboo-and-poison booby traps, the VC tunnels, nor all their hidey-holes and arms caches.

A trained Marine dowser with a pair of rods can, and repeatedly has demonstrated—under *combat* conditions, where it counts in terms of lives and crippling injuries, *not* under "objective laboratory control" —that it worked.

A Marine going into a VC area has remarkably little respect for "objective scientific evidence," and a hell of a lot of respect for anything that *works*. The scientific devices that they'd been given—gadgets that worked fine under objectively controlled laboratory conditions—flubbed totally under combat conditions. The electrostatic field sensing system that detected the anomalous dielectric constant when it passed over a tunnel worked fine in their test plot at home—but not in a VC village, where uncountable Coca Cola bottle caps had been ground into the soil for decades.

An electrical gadget supposed to detect VC rifle barrels in ambushes did indeed react to the rifles. But it also detected wet tree branches. In Vietnamese jungle country this is not helpful.

And a pair of coat hangers—or pieces of ⅛" brazing rod a couple feet long—could be bent into a detecting instrument *that worked*. It was not only infinitely cheaper, but so accessible that official disapproval couldn't keep them out of the Marines' hands. Not the most authoritative and official scientists at the great research establishments in the United States could keep the

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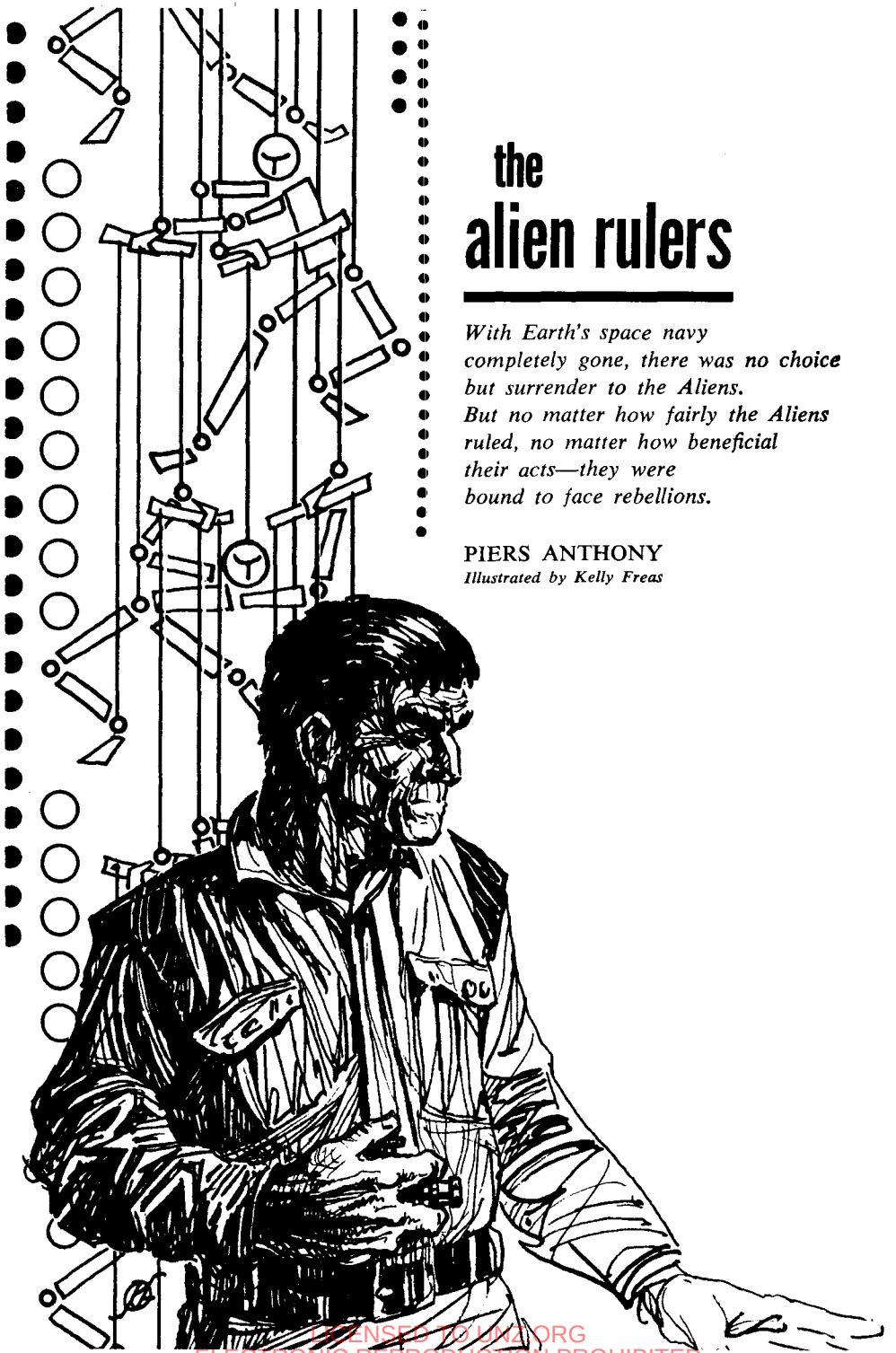

the alien rulers

With Earth's space navy completely gone, there was no choice but surrender to the Aliens. But no matter how fairly the Aliens ruled, no matter how beneficial their acts—they were bound to face rebellions.

PIERS ANTHONY
Illustrated by Kelly Freas

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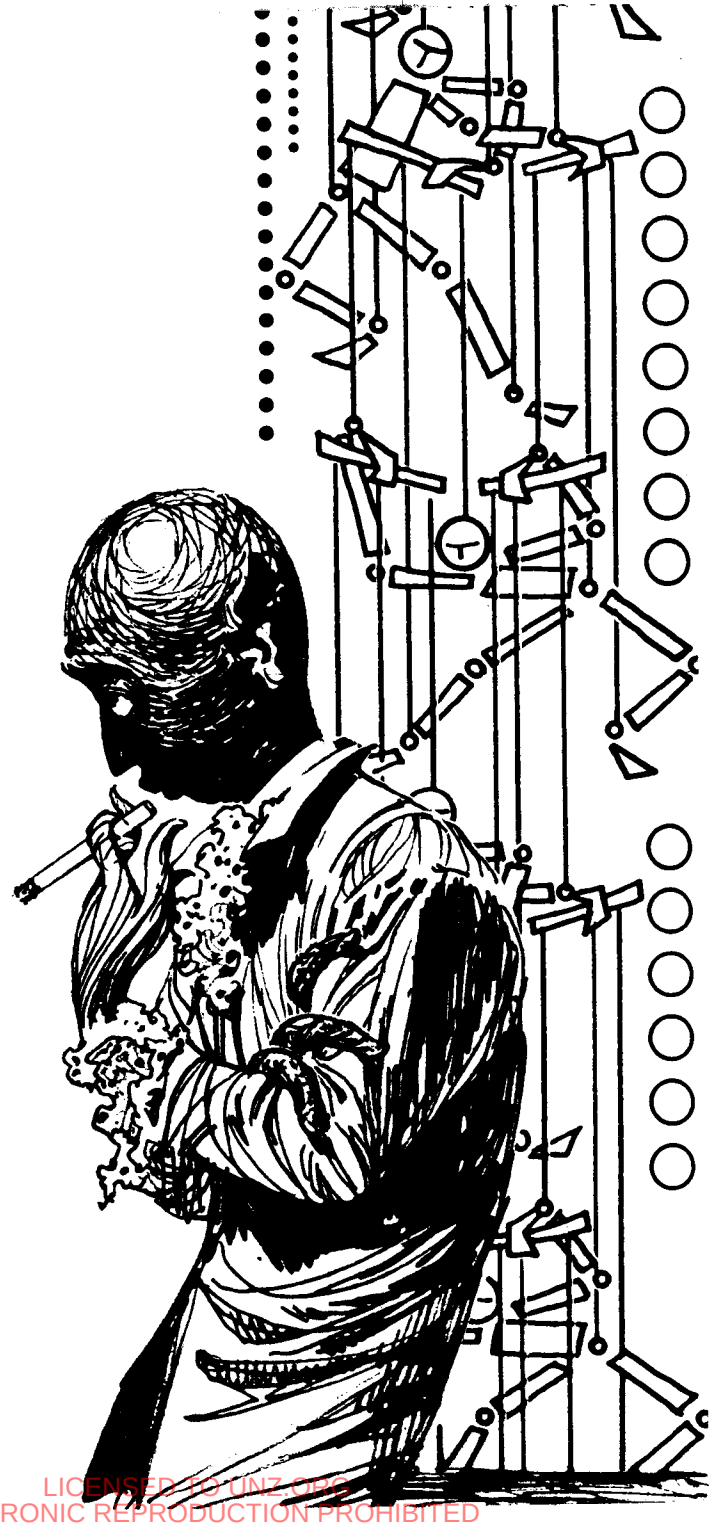

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If Bitool really wanted a favor, he had chosen a remarkably inappropriate occasion to make his desire known. Yet he stood at ease, one blue hand resting lightly upon the stolid desk, the press of his conservative business suit undisturbed. His nose and ears were so similar to the human equivalent that the Earthman was sure they were artificial appendages; the eyes and mouth deviated more. Bitool was, every inch, every nuance, the genteel alien executive.

"Let's not play at formalities," Dick Henrys said. "You know I am your enemy." But the words emerged awkwardly; he felt like a sophomore joker standing before the dean.

The Kazo overlord of America, North-Central, smiled, conveying in a single expression both the humor of his spirit and the clockwork calculation of his mind. "I do need your assistance," he said. "As you are a man of honor, I am asking you to make your decision right now."

"Honor!" Henrys looked around the austere office, unable to meet the overlord's gaze. "I came here to kill you, and you are offering me my freedom—in exchange for just three days of loyal service? With a revolution breaking over your head?"

Bitool's manner changed. He snapped his fingers imperatively. "Immediate response, Earthman: What is a revolutionist?"

"A revolutionist is one who desires to discard the existing social order and try another."

Bitool snapped his fingers again, ringingly. "Under what circumstances is a man a revolutionist?"

"Every man is a revolutionist concerning the thing he understands."

Snap. "And what oppression has revolution eased?"

"Revolutions have never lightened the burden of tyranny; they have only shifted it to another shoulder."

Bitool smiled. "Please pick up the volume beside you, Richard."

Henrys glanced at the table on his right and found a slim book there. He reached for it.

"Identify it, Richard." Again the smile without the snap.

He read from the title page: " 'The Revolutionist's Handbook and Pocket Companion,' by John Tanner, M. I. R. C."

"Keep it, Richard. You will find its content remarkable." The overlord's expression became enigmatic. "But now you must give me your commitment. I must have your cooperation during the crisis."

Henrys studied him, searching for some clue to his intent. The Kazo now puffed a local cigar. His blue face and hands were distinctly alien, but nothing else was. As he stood, he looked as much like a human being as an extraterrestrial being.

"I don't see how you could afford

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to take my word for such a thing," Henrys said at last, "or how I could give it. It is better for me to die than to turn against my cause." Why did his words continue to sound so much like an inept reading?

"You will not be required to betray any confidences. You would not be a traitor to your principles."

"But you won't tell me in advance what you want me to do."

"You may need your weapon," Bitool said. His arm moved, and suddenly the tiny round palm-pistol Henrys had come with was in the air.

Henrys caught it automatically, his free hand circling it and positioning the stubby muzzle before his mind reacted to the surprise of the gesture. "You disarmed it, of course," he said. He aimed at the hanging light fixture and squeezed the bulb.

A puff of bitter gas appeared and dissipated as the weapon kicked his hand.

Glass exploded as the ball-shot struck its mark.

Bitool stood calmly, watching him.

Henrys looked at the cooling pistol, astonished. "I can kill you," he said. "You're too far away to disarm me with the trick motion you used before."

"You must decide."

Henrys aimed at him. "Do you *want* to die?"

There was no reply.

Earth was under the heel of the alien, conquered more readily than the cheapest pulps had predicted. Henrys had wondered many times what had become of the valiant resistance, the desperate last-ditch heroics supposed to make this planet a savagely expensive property for any invader.

Earth had anticipated in nightmare monstrous slimy slugs, or hairy man-sized centipedes, or metallic animate boxes, but had not even had the dignity to fall to any frightful scourge. Instead, of all things, it had submitted without opposition to humanoid aliens: five feet six inches tall, two almost-normal arms, legs, eyes. So close to man that half an hour with a make-up artist could pass them for men.

The Kazos conquered without apparent effort, and their rule was skilled and benign.

It did not add up. There were histories of the Kazo peoples in the Earth libraries. Henrys had taken pains to study them, and had discovered no supermen therein. The Kazos had warred and struggled for civilization in a manner so similar to that of man that he had been tempted to set the books aside as deliberate fabrications: thinly concealed allegories of Earth, published to conceal the Kazos true nature and intent.

The Kazos were *good* administrators. If they had warred as blindly as they seemed to want men to believe, throughout the develop-

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ment of their civilization, how had they been so abruptly transformed to superlative administrators? Granted that they had their great ones, as did Mankind, what strange selection brought *only* this type to captive Earth?

Now the leading Kazo of the area bluffed with his own life. Bitool was no fool. Better to spring the trap immediately, rather than to allow himself to be maneuvered, gamelike, into betrayal of his people. "You're forcing me to join you—or kill you," Henrys said. "You think this will make me believe you. This practical gesture."

" 'Beware of the man whose god is in the skies,' " the overlord said calmly.

It was a quotation, and the note was false. "I *don't* believe you." He squeezed the bulb. The shot smacked into the wall beside the Kazo's head. Angry, he squeezed again—and missed on the other side. Bitool had not moved.

Henrys stared at his hand, knowing it had disobeyed him. He was a dead shot with this weapon, but had been unable to aim directly at the overlord and fire.

"I believe you," he said. It was defeat.

Bitool turned. "Come, Richard," he said gently. "Your god is not in the skies. You shall be the first man to see."

Henrys followed him, realizing that he had been committed. He slipped the book into his shirt and the pistol into his pocket. But why had he shied away from the execution that had been his assignment?

They took the private lift reserved for the overlord—one of the few privileges the conqueror claimed—and plummeted to the ground floor. They left the Administration building together, as though they were friends. Bitool elected to walk instead of summoning a car or descending to the public conveyors one and two levels below.

Here city life continued pretty much as it always had: electric cars rolled along the measured lanes and pedestrians crowded the sidewalks. On this level alone the two could meet: antique flashing lights required the vehicles to halt periodically to let the perambulators cross.

It was inefficient, but Henrys loved it. He had spent the past two years in the Survey Department, charting this level: traffic flow, residential density, patterns of industry and employment. Henrys knew almost every aspect of this cross-section of the city, leaving the upper stories to others. It was all part of some nebulous Kazo project; perhaps they meant to reorganize the city. The overlords never acted without complete information.

The Kazo was shorter and lighter than most of the people on the walk, but completely at ease. No guards challenged them in the normally clamorous shopping area. No

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one paid attention to the extraterrestrial creature walking among them on this conventional American city street. It occurred to Henrys that he had never seen a Kazo with a bodyguard.

At the first corner a mother was trying ineffectively to keep her small child reined while carrying a heavy package of groceries. Bitool stopped and bowed. "Please," he murmured, taking the package in one hand and catching the little boy's arm with the other. The lady blushed, flattered, while Henrys averted his face in disgust. A human woman!

Bitool escorted her across the street, then returned child and package and bowed farewell. Henrys was conscious of the woman's gaze as they walked away. It had not occurred to him to assist her, and Bitool's action astonished him. Why such artificial chivalry in the alien conqueror?

Yet the woman had been pleased. She should have recoiled from the physical touch of the deep blue hand taking her package, and clutched her child instinctively away from that contact, reacting as she would against the slimy scale of a python. The child should have screamed.

Their pleasure could not have been servile appeasement. No Kazo had ever expressed sexual interest in an Earthwoman, and there was a general suspicion that the aliens were neuter, despite the plain statements to the contrary in the alleged histories. Certainly only one sex had come to Earth, and if there was miscegenation it was secret.

Henrys found his mind unusually active as he accompanied Bitool on the brisk hike. There were other mysteries about the conquest. How had Earth been subdued, and how was pacification maintained so quietly? There had been scattered resistance at first, but it had quickly faded; the current revolution was the first he had direct knowledge of. Even allowing for suppression of the press, this was hardly creditable. Weapons? The overlords possessed them, of course—but none clearly superior to those of Earth. Manpower? Clearly insufficient; there were no more than two million Kazos on all of Earth, compared to more than two billion natives.

Even the best of administrations could not reasonably be expected to dissolve all resistance to foreign domination, not when the subject was man. Selfish ambitions would not allow it. The average man did not want justice; he wanted all he could get, and was happy to fight for what he knew could never rightfully be his. The rich man grasped for his second fortune, heedless of those who starved; the wealthy nation extracted indemnities from the impoverished one. The Kazos were fair; that was why they should have been overthrown long ago. Man was a violent creature by nature.

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Until fifteen years ago. Henrys could think of only one thing to account for the change: saturation sedation. A pacifying drug that undermined the human will to resist and conditioned the mind to accept the status quo. It could be fed into the atmosphere, and the dosage increased whenever the situation threatened to get out of hand.

And medicinal components could contribute to general health . . . and gaseous fertility inhibitants would account for the general decline in population and recent stabilization at an appropriate level. Thus—peace.

Bitool led the way into a private building. Henrys was familiar with the general design of this one, as he was with every important structure in the city, but he had never entered the higher stories. It was an office skyscraper with a tremendous book store ensconced in the ground level, a drive-in grocery chain in the basement, and, appropriately, a hydroponic division in the nether extension, feeding on the nearby sewage processing plant. This was one of the complexes built under Kazo direction, replete with common sense but not always pleasantly novel innovations.

They ignored the partial loops and took the high-velocity lift to the twentieth floor. This was actually a cross between the old-time elevators and escalators: wide, shallow compartments suspended vertically, each sufficient for two rows of five people. A man could, if he chose, ride the lift all the way over the top like a Ferris wheel, down the other side and back to his starting point. Henrys knew that above and below, on every level of the building, the compartments were expressing passengers; the conveyance was continuous and nowhere did the shaft stand empty. Only those willing to travel in multiples of twenty floors, for the sake of speed, occupied this particular one, however.

The Kazos believed in efficiency.

At twenty, the lift paused for exactly two seconds. The protective outside bars shot up as the center separation fell into place. Henrys and Bitool jumped nimbly off, while other passengers jumped quickly on from the opposite side. The separation was necessary to prevent disastrous collisions between those embarking and disembarking.

They moved across to the slow lift, which trundled along at less than a foot per second and preserved momentum by never halting at all. They waited for an empty compartment and stepped into it as it rose. At the twenty-third floor they stepped off again on the opposite side and took the conveyor down the long hall at seven feet per second.

Bitool indicated the office that was their destination and they got off. He still had no idea what the overlord had in mind, or how it could relate to routine office space.

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Surely the ruler of fifty million human beings was not about to waste his urgent moments assigning a strange revolutionary to a clerical task? What could be more pressing than counteraction to the breaking storm?

For a moment Henrys wondered whether he was due for illicit interrogation. No—no Kazo had ever broken his word to an Earthman. That was one of the things that made them so difficult to fight: there were no valid issues. No tangible ones, anyway.

It looked more like an apartment than an office. The rooms were tastefully furnished with rugs, easy chairs and even pictures on the wall—all of Earth scenes. Near the far side of the main room stood an unfamiliar Kazo, smaller than Bitool and with skin of lighter hue. The new one seemed to be uncertain—an unusual trait among the conquerors.

Now there was a subtle change about Bitool which Henrys did not immediately understand. Could the stranger be of a higher rank? Then why the apparent reticence? There were not many that ranked Bitool. Not on Earth.

"Seren." Bitool's voice interrupted his train of thought. The other Kazo turned and approached them, moving with a certain grace. A dignitary from the home planet?

Bitool took the stranger's hand and brought it to meet Henrys' own. He was embarrassed for his prior thoughts about physical contact; the hand was polite and warm. "Richard, this is Serena, arrived this morning from Kazo." Bitool smiled carefully and the other imitated the expression, evidently still learning. "This . . . she . . . is a, let me say, a female of our species. The first on Earth. You will—guide her. For three days, and return her to me."

A female Kazo! So the species *was* bisexual—and now, having pacified Earth, they meant to colonize it.

Bitool had turned abruptly and left the apartment while Henrys still held the female's hand. "Wait!" the Earthman called, but he was on his own.

Serena gently disengaged her hand. "Will you show me your planet now?" she inquired, her speech unaccented but unsure. "I know so little about it, yet."

Henrys looked for sarcasm, but detected none. It was an honest question, as it almost had to be, coming from a Kazo. Hadn't she been told the situation here?

Why had he been armed and left alone with her? Bitool hadn't even bothered to obtain his formal agreement.

Someone was playing with fire. The whole affair was totally unlike the normally methodical methods of the conquerors. To capture the advance scout of an uprising and put him in charge of the only exter-

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restrial female on the planet . . .

"What did Bitool tell you about me?" he asked her.

She approached again, moving so smoothly it resembled a glide. Her features were delicate, but she was bald and her figure could never be mistaken for that of a human female. "Only that there would be a trusted person to guide me about the planet," she said. "That I should follow his . . . your instructions dutifully. Even if they seemed strange at first."

He digested this. "Did he mention the political situation here?"

"No, Richard."

This was hardly credible. In less than an hour—half an hour, now—there would be chaos in the city, as the shock troops of the underground came into the open and captured the key functions of the government. If Bitool hadn't suspected the attack before, he had surely caught on when an armed Earthman came after him with a weapon. Yet he had ignored the danger and turned a priceless asset over to the enemy. A Kazo woman as hostage—

But Henrys had agreed, by implication, to serve the overlord for three days. He had been given no specific instructions, which meant that he had to use his own judgment. And his own ethics. That meant, in turn, that he would have to protect Serena from the violence coming, and release her in three days in some safe area if unable to return her to Bitool. It would not be honest to do less.

Of all the men in the area, human or Kazo, he was probably the best fitted to preserve the life of an innocent stranger, for he had been trained in espionage and knew every byway of the city. He also knew something of the battle plan, and the key figures in it.

Bitool's action was beginning to make sense. The overlord had known that interrogation or coercion would be useless. He had also known that Henrys considered himself an honest man who did not allow the ends to justify the means. That was why he had been unable to kill the Kazo, once trust had been extended. A cursing, attacking ET, yes—a sober, intellectual individual, no. Bitool had wanted to put the female in safe hands, and had been guided by logic—and meticulous study of his man—rather than by emotion.

This revelation of Kazo insight into human motives was chilling. And Kazo intelligence—for Henrys had told no one of his mission. Bitool must have deduced the necessary, or likely, qualifications for his own assassin and fed the information into the computer registry. He had known who was coming and how to deal with him, probably, before Henrys himself had known.

Set a thief to catch a thief—and an assassin to save a life.

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"Is something wrong?" Serena asked him.

He was committed. He *had* been maneuvered into a situation he would never have chosen. No one demanded that he interfere with the revolution or give away any information concerning it—but he could not protect his charge by ignoring what he knew. It was going to be difficult.

He spoke rapidly. "Serena, something *is* wrong. You will have to trust me and obey my directives instantly, or we will both die before nightfall. Do you understand?" He had never imagined he would talk to an overlord this way.

"The situation, no," she said with that invariable alien candor. "But I will obey." Her ready acceptance surprised him also, for the Kazos came to Earth to give commands, not to receive them. Or was this merely another aspect of the racial realism?

"There will be . . . trouble. You have perhaps twenty-five minutes to learn to pass for a human female. I'll explain once we get away from here."

"A *human*? I could not!"

He yanked open the closet door, searching for clothing. "You can't afford pride right now," he said over his shoulder. "Or modesty. Strip down and dress as I tell you."

"Pride!" she murmured, but she began removing the smock that was evidently the Kazo traveling uniform.

Henrys found a dress and tossed it at her. "Put it on. We'll find you a long-sleeve blouse, and support stockings if we're lucky. You know what they are?"

"No, Richard."

He delved into a chest of drawers, praying that Bitool had anticipated this need, too. He had; there was a considerable assortment of lingerie, together with women's shoes, hats and gloves. He made a selection and turned to face Serena.

She was standing in the middle of the room, the dress hanging awkwardly. She was nowhere near human in appearance.

Henrys groaned and looked at his watch. Fifteen minutes—perhaps.

"I'm going to have to dress you myself," he said. "Close your eyes if you have to and pretend I'm a doctor, but snap to it. It *is* a matter of life and death." How had he got into this? "Raise your arms."

She raised her arms. "I do not understand, Richard. What is it, to pretend?"

He ignored her confusion and lifted away the dress. "Brother! You're not even mammalian." But what had he expected?

"I'm sorry." Her eyes were closed.

"We'll have to fake it." He lunged at the drawer and grabbed a handful of cloth. "Take this and wad it up into balls," he said, putting the material—some kind of scarf or

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kerchief—into her hands. "Open your eyes! Hurry!"

"Yes, Richard," she said, obeying.

He looped a brassiere around her chest and hooked it together on the tightest setting. She had neither ribs nor vertebrae. "Now jam that stuff into each cup, so it stands out. Sit down." He sifted through his collection and came up with panties and stockings. "Do you know how to put these on?" Ten minutes.

Neither of them knew how to keep up the heavy stockings; it was finally accomplished by pinning them crudely to the slip. Henrys located a feminine wig and fitted it over her head. He smeared white cream over her face and neck. "Make sure every inch of your skin is covered by clothing or makeup," he said. "And keep your hair straight. Find two shoes that fit you and practice walking."

She rehearsed while he gave final instructions. "You'll pose as my wife. Hang on to my arm and—"

"Pose?" she inquired. "I do not comprehend this, Richard."

Damn the forthright Kazo manner! He had five minutes to explain human ethics, or lack of them, to a person who had been born to another manner. Pretense was not a concept in the alien repertoire, it seemed.

He chose another approach. "For the time being, you *are* my wife, then. Call it a marriage of convenience." She began to speak, but he cut her off. "My companion, my female. On Earth we pair off two by two. This means you must defer to my wishes, expressed and implied, and avoid bringing shame upon me. Only in this manner are you permitted to accompany me in public places. Is *this* clear?"

"I must conform to your conventions," she said carefully.

"Exactly. And my conventions require that you place your hand on my arm, like this—no! Keep those gloves on!—and wait for my initiative. Nod agreement to anything I say, but moderately. Do not even think of yourself as a Kazo, for that is distasteful to me."

"But Richard, I *am* a—"

"Of course, and we are not forgetting that for a moment. But Earth protocol requires that you minimize your origin. You don't want to insult your hosts, do you?"

"No, Richard."

"Good. As I said, I'll explain in more detail after we—"

The door burst open. A man with a machine gun entered.

Exactly on schedule—but an incongruity jogged Henrys. It should have taken at least half an hour for the crew assigned to this building to cover it, even at optimum efficiency. Each man would have to check several floors. Even if this were the first floor checked in this section—how had the man reached this distant room *at the precise moment* of the inauguration of hostilities?

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And why did he have a projectile weapon, when it was supposed to be a gas gun, harmless to humans but toxic to Kazos?

"What's the meaning of this?" Henrys demanded, advancing upon the intruder.

The man did not recognize him. "It's the revolution, mister. We're flushing out Kazos. Stand aside while I—"

He fell, choking, as Henrys forearm caught him across the throat. He hated to do it to one of his own people, but explanations would be suicidal—and something was fishy.

"Here, Serena," he snapped, catching the gun and clubbing the man into unconsciousness. "Keep quiet and don't run or look around. If you have to scream, try to scream like an Earthwoman."

She was staring at the prone man. "You struck him—"

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"Yeah." He took her arm and drew her to the door. "Is there anything you have to take with you? We won't be back soon."

"No, Richard," she said.

They rode the conveyer across to the express lift down. It was the same loop, but the descending side was at the other face of the building, leading to the massed exits on the lower floors. So many people passed through this structure in any given hour that all the main passages were mechanized one-way.

Several doors were open, and small groups of people whispered together. Obviously the search had been proceeding all the time he was preparing Serena. It must have begun just about the time he and Bitool had entered . . .

The express paused at the third floor and they jumped off. The interval, of course, was twenty stories, whichever one a person started from. Each lift had a compartment for every floor, all moving as a unit. The only crowding occurred on the lower floors, where everyone landed at one time or another.

"I couldn't take a chance on his recognizing you," he told Serena under his breath. "But outside, you'll have to pass. If someone stares, ignore him."

"I don't think I look very much like a human woman," she said.

"Not an attractive one," he admitted. "But the confusion should help." At least, he hoped so. His precise information had been wrong on two counts so far; what other surprises waited for him?

Another man with a gun stood guard outside the building. The pedestrians ignored him much as they had Bitool; revolutions seemed to be of little interest to the populace.

Henrys averted his face to avoid being recognized and set a brisk pace down the street. "If we make it to the subway entrance, we have a good chance," he said. He had not descended to it within the building because of the likelihood of challenge by another guard, in case the one he had put away had been discovered. "They're going after the personnel and utilities first. I can't risk the escape route set up for me, though—too many familiar contacts. We—"

"Richard," she said, holding back.

"Come *on!* This is no sightseeing tour."

"Richard—the pins are coming loose. The stockings . . ."

Despairingly, he understood. The opaque stockings did not fit her Kazo-proportioned legs properly, and would fall down in a few steps without the pins. Blue legs on the city street . . .

"Grab them with your hands!" But he knew as he said it that such a display would attract fatal attention. "No. Put your feet together and stand still. I'll get a taxi."

He could see the wrinkles form-

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ing in the loosened hose. The milling people were beginning to look. *This* they chose to notice! He leaped for the nearest vacant electrotaxi parked at the corner and dumped a handful of change in its payment hopper. The door slid open across the front as the mechanism sorted and totaled the coins and hummed into life.

Henrys jumped inside and sent the car rolling forward. He halted it opposite Serena. "In!" he cried.

She hopped to the curb and twisted into the seat beside him. A bystander guffawed. Henrys slammed the wide door and moved into the traffic. "This means trouble. We have road blocks at—"

"We?"

"The revolutionists. I thought you understood that—"

"You are one of them?" she asked, perplexed. "Then why—"

"It's a long story. Just accept the fact that I'm trying to help you. I'll do everything I can to achieve freedom for Earth, but I have to keep you out of the hands of the revolutionists."

"Yes, Richard."

"We'll have to park somewhere until the initial rush is over. We can't get out of the city until dark." He turned down a side street, alert for possible pursuit. "Get those stockings pinned again. We may be searched."

"Yes, Richard," she said, bending to the task. "I did not mean to violate protocol."

The car's dash gave a warning buzz. "Oh, oh. Two minutes to find a space," he said. "I don't have enough change to keep driving indefinitely."

He maneuvered into a marked spot. A red flag popped up on the meter as the vehicle's weight settled. "Damn! An hour limit. Too short," he said. He got out and drew a dollar bill from his wallet.

"Will you explain?" Serena asked, joining him before the meter.

"Here on Earth you always pay too much for too little," he said. "This is one of the old dollar meters. You put the bill on the plate, like this, and you pull the handle. An alarm sounds in the police depot if the bill is counterfeit, or if you park more than two minutes on 'violation.' The meter will not accept another bill until the spot has been vacated. That's to prevent all-day parking."

He pulled the handle and flag and money dropped out of sight. The needle indicated one hour. They could hear the loud ticking. "Damn inflation," he muttered. "You used to get a full hundred minutes for the bill."

"But can't you move to a new space after the hour?"

"I'll have to. But it increases the risk of discovery. It is best not to move about while things are going on." He returned to the car. "Well, we have an hour. Take your seat. It's the wrong time of day, but we'll have to rely on the old lovers'

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lane dodge. Do you know what I mean?"

"No, Richard."

He shrugged. "I suppose it's different on the conqueror's planet."

She turned her head to him so quickly the wig almost fell off. "The *conquer* . . . oh. You are referring to Kazo."

"What euphemism do you prefer?" He was angry, and knew he was taking it out on her. "Earth was expanding into space, until—Kazo. When I was eight years old I dreamed of becoming a hunter on a frontier planet. Every month some new world was being discovered, and some of them were habitable. Our dreams were limitless. Then—"

"Yes!" she said with surprising vehemence.

"What do you know about it? How can you begin to grasp the meaning of freedom, when you have never been denied it? Have you ever had to squirm under the heel of—"

"They are coming, Richard," she said, peering down the street. "Must I be silent again?"

His head snapped about. Three men with machine guns were trotting down the sidewalk. He did not recognize them, which was strange because he had thought he knew most of the members of this division. But by the same token, most of them knew *him*. "I'd better conceal my face. If any of them spot me, I'll be forced to choose between their lives and ours."

"Yes, Richard," Serena said. "I'll have to kiss you. I don't like it any better than you do."

She faced him on the seat and he twisted shoulders and neck to meet her while shielding himself from the view of the outsiders. With a shock he realized that her lips were blue; they'd forgotten to apply lipstick.

Her face was hot, reminding him that Kazo body temperature ran about three degrees above the human norm. The make up was already beginning to smear. He held the position while the tread of boots passed their car, paused, and went on after a suggestive whistle.

"You kiss like a woman," he said.

"Thank you, Richard." She remained as he left her, eyes closed.

"What do you do—lay eggs?"

She did not react to the impertinence of the question. "No, Richard. We give live birth, very much as men do."

"As *women* do. But no breasts?"

"The mammary glands? No, we provide predigested food for our young, like, I think, your honey. In other respects we are very similar to you."

"Except that you are the masters, we the slaves."

She frowned. "You do not understand, Richard. It is not this way."

"Oh? What are we revolting against right now, then? Our imagination?"

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"I do not think you would wish to hear it, Richard."

Henrys leaned his head against the steering bar. "I was nine years old when the conqueror came," he said quietly, tired of baiting her. "We didn't even know the Kazos existed—until the news went out that our fleet was lost, that our leaders had surrendered Earth itself to the aliens. That evening the overlords descended upon our cities, their ships no larger, no faster than ours, but they had vanquished us. My father was a space officer—gone, just like that. The silent spacecraft settling like the foot of a monstrous tarantula to consume the rest of us, too . . ."

"Yes," she said.

"The color of leadership was Kazo-blue. Fifteen years of it—and you claim I don't understand."

"But it was for the benefit of the planets! Hasn't it been a fair administration?"

He looked at her, startled by her intensity. "You wiped out our fleet, so that not a single man ever returned, and made our world and heart a Kazo province—for the sake of a 'fair administration'?"

"I know your feeling, Richard, but—"

"You know my feeling," he said in flat irony. "I had to start school over to learn phonetic spelling. I grew up knowing that I had only one chance in ten to be granted driving privileges. That I might marry, but never succeed in fathering more than one child of my own. That I could go to space only as the hireling of the masters. That every decision I might make was subject to the approval of—"

"But didn't your wars stop?" she asked him eagerly. "Your disease, malnutrition, employment inequities, waste of resources—"

"Yes, by the largess of dictatorship and atmospheric inhibition! But better all of that, than to lose our freedom!" He meant it, he believed it—yet once more the words remained in his memory like lines from a patriotic play. The truth was that had the Kazos not come, Earth might have exercised its freedom—to destroy itself. His certainty faded in the face of Kazo reasonableness. "I know there were evils, but at least *we* controlled our destiny, for good or evil. Your rule *has* been good—better than ours, I admit—but tyranny can't be justified merely because it is efficient."

"No, not better than yours," she murmured. "I see that now."

"What?"

She drew back, embarrassed. She seemed momentarily more like a girl of Earth, both in her reaction and, oddly, her appearance. "This . . . pose . . . I am not used to it," she said awkwardly. "But tell me, Richard . . . you agree there were terrible problems, before . . . us. If you were in power, what would you do to safeguard good government?"

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He frowned. "I'm no expert on the subject, but I have had some thoughts." Now he was talking to her as though she were an equal, instead of an overlord, yet it seemed more natural. "Our system has been like that parking meter, there. You put your assets in and you get a measured privilege, whether a man or a Kazo controls the machine. The whole world is run by a simple, unbending standard: one dollar, one hour. One job, one wage. One crime, one penalty, no matter what. I just don't believe this is enough. It is bound to foul up sooner or later, because it is a mechanical standard, not a human one. People want what they want, and they don't really care about what is proper. They look for ways to get around the standards, to jimmy the meter, and inevitably they find them."

"Is that the reason for your revolution, Richard?"

Henrys paused, taken aback. "I suppose it is."

"But is there a better system than ours?"

"There must be. I've tried to work it out, but I have only the theory, not the practical side. I'm thinking of a piece of cake."

"A piece of cake!"

Henrys nodded, relaxing. No one else had cared to listen to his theories before. "Take two children. The most important thing in the world to them, this minute, is a big piece of cake. It has to be shared between them—but their rivalry is so strong that no matter how it is cut there will be cries and dispute. Each one demands the biggest section . . ."

Serena put her hand on his arm, and he did not flinch. "Yes," she said.

"An adult could make a fair division and enforce it, leaving both children disgruntled but quiet. But that's the meter-justice. What happens when they are alone? The ideal system should work as well in the absence of third-party supervision."

"Go on, Richard." She seemed quite excited.

"There *is* a system. One child gets to cut the cake; the other takes first choice. Neither one has any intention of being 'fair'—but neither complains about the result. It works *because* of human nature, not in spite of it. Now the ideal form of government—"

"Look," she said suddenly, pointing to the meter. "Our time is almost gone, and we shall have to go."

Henrys reverted to immediacies. "It's been much quieter than I expected. There can't have been much resistance." He deposited the last of his change in the car's hopper and backed out when the motor started. "It may be safe to check into a hotel now, after all."

"Will they be watching there, Richard?"

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"Not if they think they've captured or killed all the overlords. They'll be too busy setting up a provisional government to bother with such details." He noted his own use of the third person with a certain detachment; there was no use denying that the steam had gone out of his revolutionary fervor.

"I hope there has not been any killing," she said.

"It wasn't their . . . our plan to kill the Kazos," he told her, omitting the chief exception. Bitool had been considered too dangerous to allow to live. He could see why, now. "If they were willing to surrender without a fight, they'd simply be locked up. We don't want to go back to the days of murder and anarchy." But the immense supply of machine guns, that he had never been told about, made him doubt the sincerity of the revolution's mysterious leader. He had never seen John Tanner, or any picture of him, or known that he had published a book of his principles. Yet that book joggled inside his shirt. *Had* mass execution been arranged? "But you'll have to stay with me until we're sure."

"I understand, Richard."

He parked the car at one of the recharging stands and showed the way to a hotel. At the door he stopped her. "Do you have any lipstick?"

"Lipstick, Richard?"

"Never mind. I'll bluff, if the clerk notices. But stay behind me and out of the light, if possible." He had chosen this hotel because it was an old-fashioned one with human help. The risk was smaller, this way. A mechanized house would automatically register their human identities with the general computer—and Serena had none. The revolutionaries would have control over the computer by this time—and he was probably already listed as a traitor—or dead. Later he could explain—but not now.

"Yes?"

Oh no, he thought, *not one of the sanctimonious ones*. "Room for two, second floor."

The clerk peered at him over rimless spectacles. "You have no reservation?"

"No."

"We shall have to verify your credit rating."

"Cash."

"Very good, sir," the clerk said, his tone conveying eloquently what he thought of someone who stooped to such a level. He made out the registry. "Your wife looks cold, sir."

"Appearances can be deceiving."

The clerk did not laugh. "Her lips—"

"She's recovering from an illness."

"We have a doctor—"

Would the man never give over? "No thanks. Rest cure. Nothing contagious. An evening's relaxation

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will work wonders. You know how it is."

The clerk frowned. "I see. The charge includes a tranquilizer."

Henrys decided not to protest the size of the bill, due in advance, though it left him with very little money on his person. He could get more—after he got Serena out of the city.

The "tranquilizer" was waiting as they entered the room: about eighty-six proof. Henrys reddened as he comprehended the clerk's assessment of his motives.

Serena picked up the bottle, interested. She did not seem to be nearly as concerned for her safety as Henrys was.

"It's a beverage," Henrys explained. "Intended for human consumption. I'd advise caution."

"Oh, a Kazo can digest anything you can," she assured him brightly. She negotiated the seal and poured herself half a glass.

Henrys watched with dismay as she lifted the whiskey to her lips and downed it. "An *alcoholic* beverage," he said. "It depresses the higher centers of control and leads eventually to a comatose state. I wouldn't—"

"No effect on Kazo metabolism," she said, pouring herself another liberal dose. "I like it."

Henrys let the matter go, hoping she was right. "I promised to explain why this subterfuge was necessary. I didn't mean to place you in a compromising situation, but—"

"Compromising, Richard?"

"Ordinarily a man and a woman do not share a room unless they are married."

"But you explained about that, Richard."

She still didn't grasp the concept of expediency, or euphemism. "Of course we are of totally different species—"

"No objections," she said easily. "Do you know, Richard, this bev . . . beverage is very good. Are you sure you won't have some before I finish it?"

"Are *you* sure it doesn't affect you? We have to keep alert."

"Richard, our entire met . . . chemistry is different. For example, that man was wrong about my being cold. The present temperature is entirely comfort . . . comfortable for me." She plopped into the easy chair, letting her wig go askew.

Henrys suddenly remembered the lipstick and began checking the room's appointments. If they were lucky—

"You're not mammals. You don't shiver or sweat. How *do* you control your body temperature?" He already had an idea, since the information was freely available in the libraries, but he had decided it was better to keep her talking. Otherwise her natural curiosity could get them into further trouble.

Serena fished a magazine out of

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the wastebasket beside her chair. Evidently cleanup was perfunctory, here. She turned the pages as she spoke. "We possess an internal quantity of heat-retentive fluid that acts as a reservoir. This accumulates surplus calories in the daytime exercise and dispenses it at night, stabilizing the system. There is also a certain amount of avoir . . . avoirdupois around the body which can be redistributed as protection against localized exposure."

Henrys, taking his cue from her, sorted through the bathroom trash basket. There, wonderfully, he found it: the remnant of a tube of lipstick. It was not usable as it stood, but there was still substance in the base. He pried at it with his penknife. "Suppose you have a heat wave?"

"A caloric overload? No problem," she said, her voice slurring slightly. He tried to tell himself it was because she was trying to read the magazine while talking, but the picture in his mind was of the empty whiskey bottle. "On the surface of our limbs are fine metallic fibers that radiate excess energy quite efficiently when required. I believe the principle is similar to what you emp'oy for mechanical refrigeration. You convey the heat to a radiating—"

Henrys, having pried open the tube, re-entered the room. He saw the cover of the issue she was reading: a girlie magazine.

"Let's get some of this on your lips," he said. "We can't have them showing blue."

"All right, Richard," she agreed. "You had better apply it, however. You know what you want."

He knelt beside her chair and touched the blob of red to her mouth. "It isn't what *I* want," he said. "It's to conceal your identity until you can rejoin your people. No Kazo is safe in this city, at the moment."

"This is an interesting publication," she said as he finished. "But I'm not clear on certain things. Why are there no pictures of human males presented here? It says it is for men, and they are quite active in the descriptions. And are the female proportions accurately represented? I did not see many women on the street, but they were not—"

"The women depicted," Henrys said without emphasis, "are not typical. They represent the ideal, as determined by masculine criteria. A man pays attention to the physical attributes, particularly those of face and torso, and these may determine the extent of his sexual interest in a given specimen."

Serena found a few more drops in the bottle. "How convenient! That seems so much more forthright than our system. And I am to emulate a woman. Let me see . . ." She stood up unsteadily and tugged at her dress.

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"What are you doing?" Henrys protested with alarm.

"I am removing my clothing, Richard." She swayed, but got the dress over her head.

He turned away. "Oh. You will find the shower in there."

"Water? I do not need it, thank you, Richard."

Henrys stood with his back to her, uncertain what to do. It was obvious that he had an intoxicated Kazo female on his hands; while he did not know what to expect next, he was sure it meant trouble. She was a member of a species far more divergent from his own than any creature on Earth—but he had come to accept her as sapient and feminine, and could no longer view her with indifference.

She was moving around busily, and once the magazine rustled.

"Please give me your opinion, Richard," she said at last.

He turned, assuming that she had adjusted her dress and donned it again more comfortably. He was mistaken.

She had stripped herself of all apparel except the wig, and now displayed a stunningly human outline. Enormous breasts where her chest had been flat before; hips flared. The waist narrowed alarmingly.

Henrys forgot himself and stared, hardly able to credit it. "What—?"

"Is everything in order, Richard? I modeled it after the illustrations—"

He studied her body, appalled. The flesh was real. She was exactly like a buxom model dipped in blue. How had she done it?

Then he remembered her remark about avoirdupois. She had intended it literally when she talked about redistribution. That would also explain the Kazo similarities of facial feature: they could shape their flesh and cartilage to match the human posture.

He had told her to pass herself off as a human female, not realizing how far she would take it.

"If the physique is satisfactory," she said, "I am ready to conform to the rest of your conventions, Richard."

He had been inspecting her as though she were a statue. He turned away again, reddening. "Conventions?"

"To be your wife, your companion, your female, as you directed. I did not understand it entirely before; but there are several descriptions of the procedure in the publication."

Henrys choked. She had applied the erotica to the orginal subterfuge, not penetrating the true nature of either. "This applies only in public," he said as evenly as he could. "There is no compatibility between our species."

"I'm sorry, Richard. Did I make an error in the pose? Too much intoxication?"

"You mean to say you're *not* drunk?"

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"Yes, Richard." The fuzziness and hesitation vanished. She *had,* it seemed, grasped some of it.

He took a deep breath. "Serena, get dressed and I'll try to clarify things."

"You do not find me attractive?"

"I do not."

She dressed silently. He was upset about hurting her feelings, but realized that strict truth was the only course to follow from here on.

"Since Earth fell to the invader," he said, "we have had only one serious hope for freedom: that the occupation was temporary. We know that it is impossible to throw off the alien yoke by force; this entire revolution exists only by Kazo sufferance, and will collapse when the first genuine counteraction is taken. That isn't what the leaders think, but it is the truth."

"You said you were part of it, Richard. Don't you believe in it?"

"I—" He paused, baffled. "I thought I did. But when they sent me to—"

She glanced at him alertly, no trace of intoxication in her manner.

"To kill the overlord," Henrys continued with difficulty. "I . . . but I don't believe in taking life. I would never—"

She modified the subject delicately. "What were you about to say about your attitude to Kazo females, Richard?"

He sat down. The book Bitool had given him shifted inside his shirt, and he drew it out. "I have to hate the Kazo female, as does every person on Earth. Because the occupation can be considered temporary only so long as the conqueror *does not colonize. But the moment* he starts bringing in family units, he has given notice he means to stay. Kazo females are incompatible with the freedom of Earth." But as he spoke his eyes were on the title, "The Revolutionist's Handbook," and his thoughts were in a third domain. How could he ever have agreed to kill anyone? It was an act of lawlessness that repulsed him utterly. Yet he had fired twice at Bitool—

"And you were assigned to take care of me?" she inquired. "I do not understand this, Richard."

Then the author's name leaped up at him, making a connection whose significance had evaded him before: John Tanner. The leader of the present revolution.

Whose book was in the hands of the Kazos, but had not been shown directly to the partisans.

He opened it. There in the preface were the very sentences he had spoken in answer to the overlord's rapid queries: automatic responses, rote replies from a printed catechism he did not recall ever studying. "A revolutionist is one who desires to discard the existing . . ."

He flipped back to the title page. "John Tanner, M. I. R. C. (Member of the Idle Rich Class)."

A joke. And at the foot, a brief

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note: "Reprinted from the supplement to the play 'Man and Superman,' by George Bernard Shaw, in which John Tanner is a fictional character."

"Something is wrong, Richard?"

He hurled the book from him. "I've been a patsy. They must have drugged me and instilled posthypnotic suggestion and a headful of platitudes—and Bitool knew it! He knew I was doped and duped. Probably my whole escape route was phony, and most of the information I thought I had. If I killed Bitool and got captured myself, none of my information would mean a thing!"

"Then you are not of their number?"

"I thought I was of their number," he said bitterly. "All my philosophizing . . . my 'piece of cake.' I thought I was on the way to answers. I thought I had something useful to do."

"Perhaps you still do, Richard. Why did you assist me, even against the men you believed were your compatriots?"

"What a man believes may be ascertained," he said in a rapid monotone, "not from his creed, but from the assumptions on which he habitually acts." He laughed harshly. "That's another dear little quote from the handbook. I recognize it now. The irony is that much of it does make sense. It was easy for me to believe I believed it. I *do* believe it, or at least I agree with much of it. I helped you because I had given my word—and you needed help. That was something quite apart from automatic phrases."

"I am very glad that was the case, Richard."

"But I *still* don't approve of the Kazo rule. Men should be allowed to make their own mistakes. It isn't fair to—" He stopped, listening.

Heavy boots were tramping up the old wooden stairs.

"Out the window!" he snapped. "There's a fire escape."

She moved immediately at his direction, asking no questions. He loosened the catch and knocked the window open. His training might be no more than hypnotic indoctrination for the isolated mission, or possibly only for verisimilitude in case of capture—but it stood him in good stead now. He knew what had happened and what to do: the clerk had become suspicious and requested a computer check on their identities. Thus the revolutionaries had traced him down and come to recover him—and the invaluable Kazo female.

He was hungry. He thought of it, oddly, as he bustled Serena down the metal steps and into the evening. He had not eaten since this misadventure started, and she was probably no better off.

A long, ancient, filthy alley ran beside the hotel, as ugly as such corridors had traditionally been since the days of Babylon, when the very pavement was constructed

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of packed garbage. They trotted down it. His comprehensive knowledge of the city streets stood him in good stead, again; no one could outmaneuver him here. Just ahead there was a—

A beam of light pierced the shadow, searching for them from the window just quitted, but there was no outcry. He jerked Serena around the corner. How laughable: his indoctrination made him far more competent at this sort of thing than his pursuers were! They had thought to march in noisily and catch him napping!

The lighted entrance to the subterranean transit was at hand. They merged with the evening throng. At the first level down they stepped onto the belt traveling toward the center of town and stood together like a couple going on a date. Serena had kept her body, and it strained at the more conservative dress: she even attracted a complimentary glance or two.

Henrys had chosen this belt because it moved in the opposite direction expected of a person fleeing the city, but now it occurred to him that he was being foolish. Either the revolutionists were after him and wanted him badly enough to close off every city exit—a phenomenal undertaking, on top of the problems of the take-over—or their interest in him was incidental. He had jumped to the conclusion that they had spotted him in the hotel, but now he saw this as a conditioned response, and an exaggeration of his importance. It could have been someone on an unrelated errand—and they might not even know about Serena.

And he had sacrificed the room he had paid for, on that histrionic suspicion, and now did not have the funds for another.

"Serena," he murmured, "I think I have miscalculated. Are you willing to take a chance?"

"Yes, Richard."

He guided her off the belt at the next traveler's aid station. The clerk looked up as they approached the booth. "Yes?" he inquired, very much as the hotel clerk had.

"We are travelers not in sympathy with the uprising," Henrys said quickly. "We do not have money for food or lodging, and we hesitate to apply to the computer for credit—"

"Take a seat, please," the clerk said without changing expression. He touched a button on his phone.

They sat down uneasily on the bench facing the booth. "Are you certain that was wise?" Serena inquired.

"No." He wondered whether her concern was for the amount of information given away, or because he had not been entirely candid with the clerk. *She* might have stated the whole truth. "It is a calculated risk. He will either find facilities for us that are discreet—or he will turn us in to the revolutionaries. If he

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reports us, be ready to move in a hurry; we should be able to lose ourselves again."

"Yes, Richard."

A man strode up to the counter, robust and solid, with a receding hairline and a round cheerful face. The clerk said something in a low tone, not looking up, and the man moved on. Henrys relaxed.

A man with a machine gun rode down the belt. Henrys tensed and touched Serena on the arm. He tried not to stare or reach for his own weapon, but no one else was paying any attention. It was amazing how sanguinely the populace took the revolution! Or was it merely the old, old policy of noninvolvement, euphemized as "live and let live" or "the golden rule"?

"The golden rule is that there are no golden rules," he murmured, quoting from Tanner again. How could a man watch an atrocity, and ignore it in the name of anything golden?

But he knew that no one would help him if the armed man attacked. He would have to use his palm pistol or run.

The revolutionist rode on by.

"Will you join me?" It was the robust man, now seated beside them. Henrys had been so anxious about the armed man that he had not paid enough attention to his immediate surroundings.

Should he trust this person? Obviously this was the clerk's contact.

What choice did he have? "Thank you," he said.

The man stuck out a healthy hand. "Adam Notchez, master-sergeant, World Army, retired."

They shook. "Dick Henrys—and this is Serena."

Notchez escorted them to a handsome apartment in the high-rise residentials. "My grandchildren are about somewhere. Hide and Tag in the lift, most likely."

Henrys could imagine it: ride to a random floor, jump off, jump on again after several compartments had passed, while the following child had to outguess the first and catch up without overshooting. To watch the floors from a compartment, or the compartments from one floor? Endless possibilities. "Is that permitted?" he inquired.

"Of course not. I'll have to pretend I don't suspect. That's why I'm a popular baby-sitter—I'm good at keeping secrets. Got nothing better to do with my time, these days. Have a drink?"

"No," Henrys said, cutting Serena off. She smiled faintly and winked at Notchez, who smiled back.

"Well, you're both hungry, I know. It'll have to be leftovers, though. Hydro-turnip salad, soy milk, the usual. I sure miss the old days."

Henrys tensed. "You object to Kazo rule?"

Notchez gestured expansively as he set down the food. "Ten years

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ago I would have been in the forefront of the mob, clamoring for blue blood. Five years ago I might have supported a revolution tacitly. But now that it's come, I discover that I don't like it. Suddenly I find myself appreciating fifteen consecutive years of peace and prosperity. That's a world record—literally, you know. It beats the old one by about fourteen and a half years. Oh, I miss it, I get terribly nostalgic—but I don't regret it anymore."

"But weren't you in Earth's military?" Serena asked, nibbling delicately on a flavored mushroom. Henrys tightened, but the sergeant didn't seem to notice the signal of alien viewpoint.

"Thirty years," Notchez laughed. "Oh, I know what you're going to say next! What does a career man do, when there isn't any war? And I will inform you that the army is with us yet, and the navy, too—busier than ever. The war never stopped. Not for an instant."

Henrys put his hand on his concealed pistol.

"The war against hunger, disease, ignorance," their host continued. "It took me a long time to be convinced. I was so sure there was an ulterior motive, that the overlords were setting us up for something terrible—extinction of the species, for example, or reduction to slavery for Kazo colonists. But I changed my mind. Here, let me show you." He touched a button and a projection came to life on the wall opposite them. Notchez hitched his chair around beside Henrys.

"This is the Global Highway. The Kazos decided that civilization depended on good communications, and that meant, among other things, high-capacity arteries. This is the mightiest turnpike ever built on Earth—sixteen miles across, twelve tall. The Romans were pikers!"

Henrys smiled at the sergeant's little joke. He knew about the highway, though he had never driven on it. Serena was watching the projection with her usual interest.

The highway rose like the Wall of China, a hundred feet high and twice as wide, yet sunlight filtered through its several tiers and green plants decorated every level. The camera panned across the continuous restaurants, recharging stations, theaters and hotels lining its center mall, all elegantly sculpted and brilliantly clean. Electric cars shot by at a hundred and fifty miles per hour in the isolated speed lanes, while they seemed to inch along in the outer scenic strips.

"My unit was never even broken up," Notchez was saying. "We were redesignated a construction battalion, and our chain of command descended from a Kazo general. We worked on that road—and I tell you, I learned more about building, the last dozen years of my enlistment, than I ever thought I'd know about anything. We had to excavate

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fifty feet into the ground and level it, come mountain or ocean, sticking mostly to contour, and pipe the rivers through. The thing runs from Cape Horn to the Cape of Good Hope without a break, or will soon, splitting into the Siberian/European/West African and the South-Asian loops that join up again at the equator. I worked on sections in five continents and the Indonesian Spur."

There was a shot of one of the underground lanes, as seen from a speeding car. The walls on either side were decorated with murals: scenery similar to that visible along the various other sections. An inset view of the speedometer showed it rising above the posted limit.

"Watch this," Notchez said.

At five miles per hour over the limit the mural wavered and dissolved into inchoate patches of color. At ten, enormous letters appeared: OVERSPEED.

"Damndest effect," the sergeant observed. "Something about the optics of it. The car sets up sympathetic vibrations in the air, too, at that speed, making a most unpleasant keening noise. Same thing happens if you go too slow. Of course speeders *are* arrested if they push their luck. Now watch."

The dial of the speedometer dropped and the mural reappeared. Henrys realized that it was enormously elongated, to provide a natural effect when viewed at speed—yet the distant mountains shifted perspective realistically while "near" objects blurred by. This was not a simple painting.

The indicator dropped below the minimum and the picture blurred again. No words appeared at the reduced speed, however; instead the colors jumped, as though on separate frames.

Then he understood. They *were* separate frames—wide columns angled to present a compensated view of sections of color: red, yellow and blue. Between these posts he could now make out the adjoining lanes, and *their* pillars, a subterranean forest. The proper velocity combined the sections into a full-color, continuous image, and an improper velocity brought out another illustration, as though stroboscopically phased. Yet it was mechanical, not electronic; just a useful application of known principles.

Notchez was answering one of Serena's questions. "Well, I think the cars are supposed to be spaced a hundred feet apart, on the average, though of course traveling speed makes a difference. Say they're doing sixty—that's over fifty cars passing any given point in each lane. Ninety-six lanes going each direction—call it five thousand cars per minute, total, each way. Comes to . . . I figured it out once . . . about seven hundred thousand every twenty-four hours—east or west. Put a family of three in each car, and in three years you could empty the planet."

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"And you built it all in only twelve years?" Serena inquired. The projection was riding along the top section now, the only area that *looked* like a highway. The view was from the innermost lane, overlooking the mall; the tops of trees waved at eye-level, and swinging pedestrian mock-vine ramps crossed to the other side.

"Thirty thousand miles of it? No —there's still a gully cooling off in the Urals and a couple other places, where they had to 'H' a channel. Can't build until the radiation drops, you know. And down in Sumatra and Java, between the monsoons and the earthquakes—"

The door slid open and two children appeared, interrupting him. Notchez turned off the image. "Kids, you know how late it is? Know what your mamma would say to me if she knew—"

One was a girl about six; the boy was a little smaller. "We won't tell if you won't, Granpa," the girl said precociously. She spied the visitors. "Oh. Hello, Visitors."

"Hello," Serena answered promptly. The result was unexpected.

"Kazo!" both children screamed, rushing at her.

Henrys' hand dived for his weapon, but this time the host's heavy arm slapped him back against the chair. "You don't make that motion twice—not against a master-sergeant," Notchez murmured. His iron grip closed on Henrys' wrist. "Just keep quiet and watch."

"Kazo!" the little girl repeated, as each child clung to one of Serena's hands and tugged at the gloves to reveal the blue skin beneath. But they were smiling.

"You knew all the time," Henrys snapped.

"I worked under Kazo supervision a dozen years," Notchez said. "For the last five I was Enlisted Liaison man for the general. I know a Kazo when I see one, though I never saw a female before." His grip relaxed. "And I guess the kids do, too. I didn't think they'd be that quick, though."

The gloves came off. "See?" the girl exclaimed triumphantly. "All blue!"

"I always told them that only good children could ever get to meet a Kazo," Notchez explained. "As I said, my attitudes changed quite a bit over the years. I respect what the overlords have accomplished, and I am far from being alone. That's why I agreed to hide you during the . . . disturbance. You'll stay here for the duration—the children wouldn't have it otherwise." He turned to Henrys. "Or do you doubt their motives?"

The little boy had climbed into Serena's lap and was whispering something into her ear, while the girl yanked at him jealously.

"You will find that this 'revolution' is pretty much shrugged off by the average man," Notchez contin-

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ued. "There is always a ruthless lunatic fringe—but the great majority have come to realize, as I have, that the loss of the Kazos would be the greatest disaster Earth could sustain. The yoke is light, the benefits impressive. In a few days those self-styled saviors of man are going to crawl back into their holes, baffled by contempt and passive resistance. We don't need their kind any more."

"But would you feel that way without—"

"Without being drugged?" He shrugged. "If the atmosphere is drugged the way the soreheads claim, would revolution ever have broken out? Seems more likely to me that we're free agents now, whatever happened before."

Why hadn't he thought of that? The fact of the revolution gave the lie to such pacification. His thoughts and feelings had to be his own, unless the revolutionists had found some individual antidote. If they had, why hadn't they given it to everyone? Unless they *wanted* passivity so *they* could rule . . . . Either way, the Kazos seemed to be vindicated. He didn't have to resent what he suspected they had done to his emotions.

"I think I have some cake somewhere," Notchez said, standing, "if it doesn't start a riot."

"Me first!" the children cried in unison, scrambling after him.

Henrys let the burden fall away. "If you will allow me to make a suggestion—"

"But I want some, too, Richard," Serena protested mischievously.

The sergeant emerged from the kitchen with half of a richly frosted chocolate cake. "My personal drug indicator is a piece of cake," he said. "If I can divide it peacefully, I figure the suppressant is acting. But tonight—"

"Even so, it can be done," Henrys said. "It's just a matter of—"

"But *everyone* should have a piece," Serena said.

"Fine," Notchez agreed. "Just so long as it's divided fairly, and *I* get the fairest chunk."

Henrys contemplated the prize. "You conspirators think you have me, don't you!"

They laughed.

"Well try *this* on for size," he said. "There are five of us, er, equals. Nobody wants to be deprived, right? Very well: I will cut myself a section representing my fair share—one fifth. If any of you think it is too big for me, you may cut a little off to make it right. O.K.? Then you can divide the rest of the cake among you, crumbs and all, in the same fashion."

The little girl stood on one foot and screwed up her face in concentration. "I get last choice," she announced after a moment. The boy was silent, not comprehending this and suspicious of a sibling ruse.

"Your piece may become rather small," Notchez warned him.

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Henrys grinned. "One clarification: the last person to touch the piece gets it instead."

Now all were perplexed except Serena, who refrained from comment. "You sure this thing will get off the ground?" Notchez inquired dubiously.

Henrys took the knife and cut off a full quarter. "There's my piece," he said. "Anybody object?"

"Yeah!" the children cried, appalled at such gluttony. The girl snatched the knife and assessed the situation. "I can take away as much as I want?"

"Yes. But then you keep the piece left."

"But what if I make it too small?"

"Too bad."

She hovered over it, unable to make up her mind. Finally she shaved off a thin segment and swept it into the main body. "There. Now it's mine."

"Oh yeah?" her brother demanded. He knocked off a tiny crumb. "Mine!"

She glared at him. The piece was still a generous one.

"Next?" Henrys said.

No one moved.

"Mine!" the boy exclaimed again, gleefully. He made off with the booty.

"I begin to glimpse the light," Notchez said. He took the knife and severed a smaller piece. No one challenged it, and it was his. "Yes—I comprehend!"

Serena took another slim section, leaving the last decision between Henrys and the girl. "I'll cut—you choose. O.K.?" he asked her.

She nodded distrustfully. He cut it unevenly.

She stared. "My choice?"

"Right."

She squealed with delight. "You made a mistake!" she cried, taking the larger piece.

"Can't win 'em all," he observed philosophically.

"But you see it would be cumbersome to divide a cake between two billion people that way," Bitool said. "That is the weakness of that system. By the time it was accomplished, the cake would have rotted, and the people starved, even if social problems could be arbitrated so simply. The fair way is not always the best way."

Henrys looked out the window of Bitool's office, wondering where the overlord and other Kazos had concealed themselves for the past three days. Not one had been captured by the armed searchers. The revolutionists had abdicated in the face of massive indifference, as predicted, and had accepted exile on a Pacific isle helpfully deeded to them. The coup had never even made headlines. "I know," he said, "that the world can not properly be equated to a piece of cake. Simile only goes so far. But I'll stand by the principle: there must be a way to achieve commerce between species without the conquest of one by

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the other. Some way to divide and choose—"

He broke off. "Just what *did* happen to the Earth fleet, at the beginning?"

"Tell him, Seren."

Serena, now of normal appearance, closed her eyes and spoke in a strange, impassioned singsong: "It is the year of the flightless amphibian, of the bloom of the seaborn ones, and of our fourteenth off-world colony. Our ships range into the realm of null-communication, searching out strange worlds, and we are waiting for news of wonder. Only in space are we united, and soon even that may fall away, as we find no common enemy to bind our passions together. Yet we fear that theoretic enemy even more, for we are new to space and our hold on it is uncertain.

"And our fleet gathers its ships of all dependencies and disappears—and then the horde of the Earthmen comes and we are surrendered and we do not know what has happened. We try to resist, but our governors are gone over to the enemy and we are become hostage to our own weapons. And the Human creatures emerge from battleships like ours, beings of ferocious aspect and immobile feature, of stiff limbs and astonishing tenacity, and we are afraid.

"But they are fair, policing their own numbers as rigidly as ours, and we come to know that there is glory behind their power and sorrow beneath their regimentation. We chafe under their mastery, seeing them no more advanced than we—but we forget the terrors of war and famine, for peace is absolute. In time we come even to love them."

Bitool reacted first. "I did not know this, Seren."

"You have not been on the homeworld, Bitoo," she said. "But I have found that the man you gave me to is as honorable as the ones governing our world. I could not tempt him."

It was the first time Henrys had seen an overlord embarrassed. "This was not intended," Bitool said. "There must be no relationships between the species."

"Naïveté," Serena said, but now she was embarrassed, too. "How else is one to find common ground with the master?"

Henrys would have been amused at this evidence of the differing attitudes of Kazo-male and Kazo-female, if his own sentiments were not overridden by the larger picture. "Do you mean Earth and Kazo *exchanged governments?*"

Serena smiled. "I was surprised, too, Richard. Perhaps I did not fully appreciate it until you explained about the cake. But isn't it best?"

"But how can you be sure the Earthmen aren't brutalizing your home?"

Bitool recovered his serenity. "Richard, do you expect us to send men to govern our own world who are not fit?"

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It began to fall into place. New Kazos arrived every year, invariably upstanding specimens—selected, it seemed, by the human overlords of Kazo. No, the choices would hardly be careless, when the decisions were irrevocable and the homeworld was hostage. Even the most selfish child divided the cake fairly when any mistake applied so directly against his basic interest.

And there would never be war between the planets.

"The key is not so much in the system, Richard," Serena said gently, "but in the selection. Good leaders make good government—and good government breeds good leaders."

"Why are you telling all this to *me?*"

"Why do you think, Richard?"

Then the rest of it dawned. "But I came to kill—"

"And you overcame the strongest conditioning the rebels could impose, and your own lingering doubts," Bitool said. "You were tempted—and did not fall. How else could we be sure of you? Surely we could not send an untempered man. What a man believes—"

"May be ascertained, not from his creed—" Henrys added.

"We shall not see each other again, Richard," Serena interposed sadly. "You leave tomorrow."

Bitool put out his hand for an Earth-type handshake. "Yes, we are alien rulers—and you are about to be an alien ruler, too. Be kind to my world, Master." ■

in times to come

Next issue Joeseph Martino's yarn "Secret Weapon" leads off—and Harry Harrison's "The Horse Barbarians" concludes.

When a secret weapon is mentioned, it's generally sort of automatically assumed that it's some complex technological achievement of deadliness, made of crystal and metal and plastic, emitting some destructive radiation, object or forcefield.

But there's nothing so difficult to spot—even when you've captured a nearly intact enemy ship—as a weapon who's nature you don't know. How do you find something when you wouldn't recognize it if you fell into it? All you know for sure is that something the aliens have is destroying your hunter-killer ships. The mice are eating your cats.

But there was an even tougher problem than they guessed; softwear leaves no traces at all! ■ THE EDITOR

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uplift the savage

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The Method behind the Madness was really quite simple. People want what they're not allowed, of course . . .

CHRISTOPHER ANVIL

Illustrated by Kelly Freas

Darius Henning, Executive Director of the Terrestrial Aid & Development Mission on the planet Sigma, rammed a fresh charge into his stingbolt rifle, squinted at a blur moving in the gathering gloom, and squeezed the trigger.

There was a distant flash, and the high-pitched scream of an agonized Sigman. The scream faded into unconsciousness.

"Got the bastard," growled Henning.

Just to his left in the dimness, there was an indrawn feminine breath, which Henning ignored as he spoke into a little hand communicator.

"Henning speaking. Ralph, how far is that bunch from the wall?"

A faintly tinny voice replied, "No more than forty feet now. They're crawling up that narrow irrigation ditch, shoving oblong bronze shields along over their heads. The plasmoids hit the shields and ground out."

"How many of them are there?"

"Better than two dozen. Of course, we'll knock some off as they come over the wall. But they'll get in."

"You can't stop them?"

"Not a chance. Along here, it's only eight feet from the bank to the top of the wall."

"Who's in the next guard post?"

"George Hazlitt."

"You'd better both pull back to the crosswall. Once they're in, there's too much chance of spoiling the whole crop if you fire at them. And, Ralph, be sure you don't stick your neck out."

There was a sarcastic exclamation at Henning's shoulder. Henning ignored her, but Ralph's comment showed that he'd heard.

"I won't take any foolish chances, Chief. But just incidentally, if we want to get rid of that female spy, now's the time. Why not send her out to interview some Sigmen? This nearest batch has their hot sloth grease and lizard scales right with them. I can smell the stuff from here."

Henning grunted. It took something for an Earthwoman to be disliked so fast on a planet like this. But she had what it took. He spoke warningly into the phone. "Be sure you pull back in time."

"Don't worry, we will. No matter *what* we do, this bunch is going to get away with some groundwheat."

Henning agreed, switched off the communicator, and flipped on the

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nearby monitor screen. He crouched low by the parapet as the dim red outline showed him the steady approach of a chain of blobs along the dark line of the irrigation ditch. Other blobs surrounded the Aid & Development station, and were now spread out from a hundred to five hundred feet away. Henning flipped off the screen, and squinted into the darkness. Out there about a hundred feet, a deeper shadow slowly glided closer.

The shadow stopped.

Henning cautiously raised his gun.

There was a whir, a rush of air, and the thud of a padded arrow against the wall to his left.

Henning gently squeezed the trigger.

Out in the darkness, there was a brief flash.

A hideous scream told Henning he'd hit his target.

Beside him, there was a sarcastic feminine murmur. "*Got* the bastard."

Henning straightened, and eyed the nearby shadow. There beside him in the gloom stood a hundred and twenty-eight pounds of delightfully-curved femininity, with a face that showed beauty, character, and intelligence; and the only impulse Henning felt was an urgent desire to slap a length of adhesive plaster across her mouth.

"Oh," came her voice, in itself clear and pleasant, "you *brave* men! And all you have on your side, against these *fierce* natives, is your own courage, your bare hands, and —an interstellar technology!"

Henning turned away, peered into the darkness, and wondered why eyes had lids and ears didn't.

An arrow whizzed past, missing him narrowly.

A quick glance at the monitor screen showed that the Sigmen were easing in closer, and forming into several loose-knit groups around the station.

The breeze, which had been shifting and veering since sundown chose this instant to blow from a new direction, carrying to Henning a trace of the fresh fragrance of the woman's perfume. The tantalizing scent left him dizzy, but the wind of a passing arrow snapped him back to reality.

It came to Henning as the arrow thudded against the wall, that something definite was going to have to be done about her, and done soon. A pretty unattached woman like this took his men's minds off their work. She took *his* mind off his work. She was physically desirable, but with a personality like cider turned to vinegar. To Henning, it seemed one of the worst possible combinations. First his men were attracted, then they were rebuffed. And to top it off, the woman had a string of academic degrees, and was out here as the emissary of an independent outfit that was evaluating the aid and development program. In Henning's view, she was

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the exact type, already mentally overstuffed with ill-digested knowledge, that found it impossible to assimilate a new idea. There was just no place to fit a new idea *in*. For this very reason, she was also the exact type that could turn in a ruinous report with an air of overpowering authority. That Darius Henning's superiors had foreseen this exact possibility was shown by the letter that had arrived for him on the same ship as the woman:

Darius:

I don't know if you've heard of the Brumbacher Foundation, but, believe me, it has a lot of prestige. The stated purpose of this foundation is to "combine liberal social aims with conservative fiscal practices, thus to attain sound governmental policies." I won't try to guess whether this aim is wise or even possible. My worries are on a somewhat lower level.

You have doubtless long since received our notification that one P. L. Forsythe, B. A., B. S., M. S., Ph. D., Ph. D. (Intern.), Soc. D. (Sr.), F. S. I. S., F. T. S. S., F. C. I. A. S., is on the way to carry out for the Brumbacher Foundation an analysis of our practices on Sigma. What we did not care to put into the communications record is the fact that the Appropriations Committee looks on a Brumbacher Report as the next thing to Gospel Truth. This could be awkward, to put it mildly.

As you know, long and painful experience has shown the field men of the Terrestrial Aid & Development Administration that doing good and extending a helping hand is not quite as easy and simple as it looks. Even when the inhabitants of a planet are to all intents and purposes human, little complications can tie our beneficent intentions in knots. It can be an expensive proposition to cram culture down the throats of several hundred million violently-resisting savages. When we try it, our *ideas remain our ideas, not theirs. To get them to act as we want, we are, therefore, reduced either to bribing them or to sticking guns in their ribs. The cooperation we get by either method lacks enthusiasm. We end up putting props under a stooge government with no local support, and wind up with a burdensome liability instead of an asset.*

Past experience shows that if we should try, for instance, to introduce groundwheat on Sigma by the obvious method of handing out free seed plants, it would be a matter of centuries before we get the groundwheat established. The Sigmen are primitive but intelligent. Their chiefs are bound to suspect such generosity, since their past experience shows that there must be *an ulterior motive. The only way to get the groundwheat established fast would seem to be to throw out the chiefs and put in people chosen by* us.

But, if we do that, for that very

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reason they will lack local support. There will still *be no enthusiasm for the groundwheat. The idea of planting it will remain* ours, *not theirs. Operating on a limited budget, with limited time to get results, we can't use such backward methods. What we want is for these planets to be well-disposed to us, and to have something to trade when our frontiers are advanced far enough so that we are ready to trade with them.*

In order to accomplish this, we have to use methods that will work. What this boils down to is that the ideas for progress have to end up as theirs. *That is the only known practical way to get them to put their full force behind the work.*

This is a very simple fact, but I am afraid that P. L. Forsythe, Soc. D. (Sr.) will not get it. Her liberal aims will lead her to think we should hand the inhabitants the means of progress on a platter; her conservative economics will tell her it would be cheaper to do it that way. She lacks the experience to see that this simple-minded method would cost us a hundred times as much in the end, and still wouldn't work. When a man wants a woman, the obvious, simple, straightforward way to get her is: Grab her. Several hundred thousand years of experience have taught the human race that there are less obvious ways that work better.

If our emissary from the Brumbacher Foundation liked a man, I am reasonably sure she wouldn't just strip to show him how desirable she was, and thereby prove that he should embrace her at once. But that is just the level the conventional aid and development approach operates on; "Here is something obviously great. You've got to want it —even you can see that. And we'll help you get it, out of the kindness of our hearts. All right, now. Here it is. Want *it. Embrace it!"*

Well, now, back to our specific problem. I won't presume to tell you how to handle this woman. As a matter of fact I wouldn't know what to say. I see from her identification photo that she is not at all bad-looking, and the accompanying medical height-weight et cetera, will bear that out, so at least she may prove to be decorative. But with her lack of first-hand knowledge of how we operate and why, she could unintentionally do a great deal of damage.

Dar, this woman and her Brumbacher Report could set human aid-and-development procedures back several hundred years.

I am relying on you to find some way to stop her.

Count on me to back you up.

Bill

Henning had read this letter half-a-dozen times. "Bill" was William S. Able, Chief of Bureau. Able had the reputation of being as good as his word. But before Able could back up Henning, Henning had to figure out what to do.

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From down the wall in the gloom came the weird blast of an alien hunting horn. That signaled the arrival of the raiding party.

Immediately the rest of the Sigmen, facing the station on all sides, let out a hideous yell. The thud of padded arrows, and worse yet, the heavy *thunk* of dull-pointed javelins, gave warning of the covering attack that might or might not be driven home. Henning stepped back behind a high masonry shield, and yanked the whistle that hung on a cord around his neck, gripped it between his teeth, and blew a long blast.

To Henning's left front, a dim shadow moved.

With a shock, he realized that the woman was still by the parapet, exposed to the arrows, javelins, and hooked wooden burrs that were flying through the night. Angrily, he shouted, "Get down!"

The dim shadow turned, to say in a sweet voice: "I *do* hope you survive this dreadful attack. You must be heroic to face up to these pathetic children and their toy weapons."

It dawned on Henning that the fool thought anything primitive must be ineffectual.

He let the whistle drop on its cord, and moving in a crouch, so as to stay as much as possible behind the protecting parapet, he quickly pinned her knees with one arm, swung her off her feet, caught her upper body with his other arm, and dropped her flat.

There was a *whoosh* as a spear passed overhead, a jarring thud as it hit the shield, then a clatter and rattle as it dropped to the stone floor.

Then, in delayed response to his whistle, the lights dimly lit up.

The glow briefly showed Henning a vision of perfect femininity. She was apparently dazed, one arm raised as if to shield herself, and, for a change, her mouth was shut.

He reached out and jerked the spear across the floor. The shaft was of rough, heavy dark wood, the end wrapped in a pad the size of a baseball, covered with hide drawn tight around the shaft by shrunken rawhide thongs.

Her eyes followed his movement. She stared at the heavy spear.

"If you'd been standing," he said, "this would have hit you. It would have knocked you off your feet. Very possibly your head would have slammed into the floor or the shield, and cracked like an eggshell. Now either stay *low*, and close to the parapet, or else get back behind the shield."

He twisted away, crawled behind the shield, found his loophole, and began picking off the sprinting figures as they came racing through the dim glow toward the station.

From somewhere came the second blast of the Sigmen's horn, signaling their success in getting over the wall. The attackers faded back into the darkness.

Henning gave a blast on his whistle.

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The lights faded, saving the feeble reserve power of the batteries. Somewhere, a *bang-bang* started up as the pathetic low-compression piston-engine got started, and began to turn over the pitiful generator.

"What a place," muttered Henning.

Stooping low to avoid getting flattened by a stray arrow or javelin, he snapped on the monitor screen. The Sigmen were retreating to a safe distance. Since there was no longer any need to cover the raiding party, they were now being very sparing of their weapons. Even without points, and left completely rough, the things took time and labor to make.

The woman's voice murmured, "Is it over?"

"Not yet. This is like the eye of a storm. The raiding party will take as many of the groundwheat plants as they can stuff into their leather bags. Then they'll give a blast on the horn and go over the wall. The ones on the outside will fling in spears and arrows to cover the withdrawal. We'll pick off a few of them. The majority will get away. *Then* it will *probably* be over. You can't be sure, but that's the usual pattern."

"But it's so *silly*. You were *sent* here to *distribute* the groundwheat plants. Instead, you're fighting to keep the natives from getting them. It's . . ."

While she sought for a word to describe the situation, Henning raised the whistle, and stepped back behind the masonry shield. The Sigmen usually worked fast, and it was almost time.

Sure enough, the blast of a horn cut through the quiet.

"Stay down," he warned. He put the whistle between his teeth and blew hard.

A dim glow lit the shrubs and rolling grassy fields below. A single warrior was running in to launch a spear, but the rest were now content to keep farther back and use their bows.

A storm of arrows streaked through the pale light. A heavy spear rose toward him, and Henning took a shot at the solitary bold figure that had launched it. He narrowly missed, and didn't fire again till the warrior had sprinted nearly back to safety. Then he sent a sizzling bolt close behind him. A yell and a roar of laughter told him that he had gauged the shot to a nicety.

From the distance came a fresh blast on the horn, and a few victorious yells, silenced quickly by low gruff voices, and then Henning again blew his whistle.

The already dim light faded out entirely. The generator labored on.

The woman said, "It's over?"

"Except for taking slaves."

"Slaves!"

"That's right," said Henning. "These tribes aren't rich. They generally live a little above subsistence. They're *intelligent*, but technologically backward."

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"I know that. But what does that have to do with slavery?"

Henning squinted at her in the dimness. Very patiently, he said, "Where a race is technologically backward the typical labor-saving devices are domesticated animals and slaves. Slaves are valuable."

"Oh." She sounded relieved. "You mean *they*, the *natives*, will take slaves."

"No," he growled, "not if *I* can help it. We will take the slaves." He listened in disgust to her horrified indrawing of breath, and added, "Obviously, we have to, because *they* value slaves, and believe in the system."

She sat up in a sudden angry motion, but Henning noticed that she stayed behind the parapet. "It's all so *confusing!* After all, I was sent out here to evaluate the methods and results on this planet. I find that in a little under twelve years, a hostile, very backward people, ruled by diehard ultraconservative chieftains, has made unprecedented progress. Agriculture has been introduced, schools opened, rudimentary commercial relations established—despite the fact that by and large, the same chiefs retain power. But the method! Here *you* are, actually putting *walls* around the very things you want to give them! And not only that, you *fight them off!*"

Henning's hand communicator buzzed. A quiet voice said, "Chief, there's a party of three Sigmen creeping up on a little knot of unconscious warriors, down here near the setback by the gate. Bill, Mike, and I can sneak out the sally port and get them from behind when they start back, loaded down with their wounded. What do you say?"

"Let me get Arnold and Joe to cover you first. Those 'unconscious warriors' could be part of a trap." Henning got the other two men in position, then murmured into the communicator. "O.K. Whenever you're ready."

The woman now said dully, "Are you *really* planning to take those poor people slaves?"

"Sure," said Henning defiantly. "That's . . ."

"We need purchasing power," said Henning. "Slaves are valuable on this planet. These people also have very sharp eyes. We *never* force them to tend the plants. We rarely allow them to. But they *sneak every minute off that they can manage in order to steal a look at how we do it.* And they remember what they see. Believe me, their minds are concentrated, and they *learn.*"

From somewhere down below came a murmur of voices, a sudden bloodchilling yell, startled shouts, then the crack of two stingbolt rifles, followed by screams and silence.

Henning spoke into his hand communicator, and learned that it *had* been a trap. The "unconscious warriors" had thrown short padded clubs at his technicians.

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"That," he said, "was close. We almost lost three technicians. If we'd lost them, they'd have been spirited away and forced to tend plants, train Sigmen to make machines, and on threat of torture compelled to yield up all sorts of secrets. Almost certainly, to keep the captives reasonably content, and to tie them down, the crafty chiefs would have forced them to marry pretty tribal maidens. They're so much like us, you know, that such a marriage would produce offspring."

"Of course," she said. "After all, there's a theory that Sigma was originally populated by the crew and passengers of a crashed Terran spaceship."

Henning laughed.

She said angrily, "Now what have I done?"

"Oh, nothing," he said. "Here we have a race with copper-colored skin, blond hair, and gray eyes, that speaks a tongue no one ever heard of, and that gave two 6122 linguistic computers irreversible breakdowns, and this race of gray-eyed, copper-skinned blonds, speaking this unheard-of tongue, has a complete set of bronze-age and stone-age type tribes, scattered widely over the surface of the planet, and some scholar doing research out of a library light-years away deduces that we put them here ourselves in a spaceship maybe a hundred years ago. Excuse me for laughing. Maybe I'm wrong. After all, I missed the important point, didn't I?"

He paused, grinning sarcastically in the darkness.

She waited a moment, then said curiously, "What's the important point?"

"Did he," said Henning, leaning forward, "have his doctorate?"

She jerked back as if she'd been slapped.

Henning grinned, then heard the distant order, spoken so emphatically in the Sigman tongue that it carried in the still night air. There was no time to warn her. They were both standing comparatively exposed behind the parapet. Henning dropped low, snapped her off her feet for the second time, and said urgently, "Keep down!"

This time, she struggled. And she struggled with an urgency that told him that somehow she had totally misinterpreted the situation. It was a relief to Henning when the thud and rattle of primitive missile weapons unmistakably explained his motives, and abruptly she lay still.

For a few minutes, he was busy with his communicator, then he heard her draw a deep breath.

"I'm sorry."

"For protecting yourself?"

"For—" She stopped, then went on angrily, "For thinking I *had* to protect myself."

"Stay close to the base of that parapet. I don't want you smashed up after I've spent all this time trying to educate you."

She made a low angry sound, but she moved closer to the parapet.

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Henning took a look at the monitor screen, then blew a blast on his whistle and crawled behind the masonry shield.

The next few minutes were the hottest he'd experienced in some time.

The trouble seemed to be that the Sigman chief now had half-a-dozen of his own unconscious men, plus three valuable outlander potential slaves, at stake. He couldn't give them up without a fight. Henning in turn had three of his carefully-trained technicians, plus six valuable Sigman slaves, at stake. He couldn't give *them* up without a fight. The thing ended with the Sigmen getting away with four of their own men and, at first, two technicians; while Henning managed to get half-a-dozen Sigmen, including one that was lugging off one of the technicians. It was an expensive evening for everyone, and meanwhile, around on the other side of the station, the raiding party had quietly made its getaway with the precious groundwheat plants. Those, plus the one valuable technician he got completely away with, enabled the chief to show a profit for the transaction. Henning himself was bound to win, one way or the other, since practically everything that happened in such a raid could be turned to advantage; but he was angry over the loss of the technician, and swore savagely into the phone. For a moment, he considered leading a raiding force out himself; but that was suicide. The Sigmen's advantage in numbers was too great. Snarling angrily, Henning gave it up. He'd just have to make the best of it.

"But," said the woman exasperatedly, "won't the captured technician actually be doing what he *volunteered to do anyway?* I mean, he'll be teaching them to plant, training them in how to care for the plants —even the intermarriage has its advantages in allying the races, and spreading our customs. True, it's very difficult for *him,* but he did volunteer, knowing the risk, so—"

"You don't get it," said Henning shortly. "He *wanted* to get captured."

There was a blank silence, then she said, "What?"

"These technicians," said Henning irritatedly, "are a long way from home. The indescribable cretins back on Earth figure everything on the basis of strength, qualifications, weight-distance allowance and shipping charges. Every extra ounce has to be carried light-years. About the only time we get a woman out here is when it happens to fit advantageously into the shipping schedule. If there were enough accredited female technicians, no doubt they'd send them, in preference to men, till there were all women here, with no men—because, you see," he said savagely, "women technicians weigh less than the corresponding men technicians. That, incidentally is probably why

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the Foundation sent you here instead of a male Ph. D. with the same specialty. Right now, the big trouble here is, there aren't enough female technicians, so what happens? At least half of these birds, and maybe all of them, are secretly anxious to go over the hill and get pampered by the Sigmen for doing the same job *I* have them do—with a beautiful woman thrown in free! The only catch is, they've first got to somehow get themselves captured fighting hard in honest battle. The Sigmen *despise* traitors and weaklings. If one of our men surrenders, the Sigmen start out by plastering him with hot sloth grease and lizard scales, and then they work up from there. You see what I mean?"

"But," she stammered, "if . . . I mean—" She pressed both hands to her head. *"Everything is backwards!"*

"Sure," he snapped, "according to *theory*. But in actual *fact*, this is the way it works! You can do things strictly on the basis of general principles, and get things more or less done. But you get things done a lot better when you figure out the actual specific detailed properties of the things you're working with. What we're working with here are *people*."

"But surely, the proper way to raise the standard of living of these unfortunate people—"

Henning laughed.

Furiously, she said, "*Now* what is it?"

"In the first place, I'm not interested in raising their standard of living."

"But that's your job!"

His voice grated. *"You* are telling *me* my job?"

"But it's so obvious!"

"And if we raise the standard of living of these people, and train and educate them, and lead them up to a level of material culture comparable to ours, *then* we've succeeded?"

"Why, of course!"

"And if the benevolent social servants we've set up as *leaders*—because they'd *follow* us—get slammed out of their jobs by dictatorial types with dreams of vengeance, then what?"

"Why, they must be carefully guided so that that couldn't happen."

Henning looked at her dim shape in the gloom. In a low cold voice, he said, "Do you know how long you'd last if you came onto the planet with a hundred thousand like-minded followers, armed with every modern device of offense and defense? You'd wind up stripped of power and inside some chief's harem before the third year was out. You no more understand the reality of this planet than a raw recruit knows war after two weeks practice with a broomstick."

Her head jerked as if he had slapped her.

"How can you dare—" she began furiously, stepping toward him with partly-raised hand.

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"Because," he said, his voice still low, and colder than ever, "if I so choose, you will accidentally fall over this parapet, and if you're lucky enough to land right, and foolish enough to yell, the Sigmen will have you in a flash. Female Terrans are a valuable curiosity on this planet."

She stood still, and her hand slowly dropped to her side. In a wondering voice, she said, "You *mean* that." There was a little silence, and then she said dazedly. "Why, you must be psychotic."

"Sure," said Henning dryly, "and I'll do you the courtesy of saying that I think you have just barely brains enough to eventually override your own indoctrination, and dimly see the reality here."

"Thanks," she said.

"It's not that I think you're stupid," said Henning. "And it's not just that you're ignorant, although you are. The main trouble is that you're *ignorant and don't know it*, which is just as bad as stupidity, and even worse in a way. A really stupid person couldn't have got into your position, and hence couldn't do the damage *you* can do."

In a toneless voice, she said, "You really must have decided, actually, to turn me over to the natives."

"Why?"

"Otherwise, you would never dare to be so—brutally frank."

Henning snorted. "Wrong again. Somewhere in your extensive education, you doubtless learned that everyone acts for strictly selfish purposes, his *real* reasons, if necessary, being deeply buried in his subconscious. Hence you know that all I'm really interested in is my own advancement—to get higher up in the hierarchy. Right?"

She said stiffly, "My report certainly won't help you reach *that* goal."

Henning laughed. "Then some good may come out of this mess."

There was a silence, and then she said in a small voice, "Well, I guess I was wrong again. But that seems perfectly natural here. Everything I say or do is wrong."

"Which is very irritating," he said quietly, "when you know you are so well *qualified*."

There was an even longer silence, and then she said, "There must be sarcasm in that. You mean I'm *not* well qualified?"

"Who wrote the texts you studied to acquire your 'qualifications'? Who is it that *says* you're qualified. And how is that person qualified to say *you* are qualified? Is a blacksmith qualified because a qualified official says he's qualified, or is he qualified because he can work in iron? And if he can't work in iron, what is his qualification worth, and what is the qualification of the person who qualified his worth? There are two forms of qualification, you know. One is the *license to practice*. The other is the *ability to do the job*. One qualification is *granted by au-*

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thority. The other qualification is *acquired by thought and work*. How closely these two qualifications correspond generally depends on how well the constituted authorities understand the actual conditions. There are many cases where the authorities *don't* understand. You tell me, now that you've seen a little of the situation here, *are you qualified?"*

She let her breath out slowly. Finally, in a low voice, she said, "No. I'm not qualified."

Henning felt a great weight of antagonism dissipate into the thin air. "O.K.," he said. "Now we can talk."

She said wearily, "I've *still* got a report to write. Maybe I should just send in my resignation."

"No," he said. "You've got the *license to practice*. Don't throw that away. Now what you need is the *ability to do the job*. Or, at least, to understand the job. If *you* resign, they may send us some jackass who won't see he's wrong even when he's faced with the facts. Don't quit on us. We need you. That Brumbacher Report carries a lot of weight."

She said wonderingly, "Now we're on the same side?"

"Of course."

"But, I thought you despised me. You said as much."

Henning studied the screen. The natives had pulled so far back into the forest that the screen no longer showed them.

"No," said Henning puzzledly, "I never said that."

"You've certainly been antagonistic. You said I'm stupid, not qualified—"

"Ignorant," Henning corrected.

"Ignorant. All right. And that you'd throw me over the wall and let the savages take me."

The wind changed, and brought Henning the fresh fragrance of her perfume.

Stubbornly, he said, defying the perfume, "I would have. You threatened my work."

There was a lengthy silence, and Henning said, "As a Soc. D. (Sr.), you ought to know that, to a strictly objective observer, women react overstrongly to any threat to their children, while men react overstrongly to any threat to their work."

"Oh," she said, surprised. "I suppose I knew it, but . . . but it was *theoretical."* She paused. "That's been the whole trouble, hasn't it?"

Henning nodded. "The aim, you know, is to get an aid and development program that *works,* not one that satisfies theoretical requirements. The aim is to get it to *work in actual fact."*

"But I can't see why this *does* work. It isn't *logical."*

Henning said exasperatedly, "Of *course* it isn't logical. It deals with people, doesn't it? Are all people logical? *You can't ignore the properties of the material you're working with!* These Sigmen are tough, hardy, brave, primitive, intelligent, combative, and honorable. If they

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were soft, weak, cowardly, degenerate, crafty, and dishonorable, do you suppose we could treat them the same way and get anywhere? We'd have to adapt our method."

She said reflectively, "But there's a basic principle in your method, and I haven't been able to find it."

The wind shifted capriciously, and Henning breathed deeply of the tantalizing fragrance of her perfume. The world seemed to reel around him. Deprived of the protection of the woman's detestable unfounded air of superiority, which he had smashed, Henning was now vulnerable to her.

"I *seem* to see it," she was saying, "but I can't . . . can't formulate it. Won't you help me? I *have* to have something definite, something that can be put in my report. I can't simply say—" she paused, as if vaguely aware of some new quality in the darkness. "I *can't* just say the program has to be—suited to the planet." She paused again, began to speak, and stopped.

Henning moved around, trying to get a breath of air free of perfume. The breeze, however, capriciously followed him around, so that he practically drowned in perfume. Then, abruptly, a new thought penetrated to his consciousness: *What was he running from?*

Now that he had beaten the conceit out of her, what was left was a beautiful woman.

True, she had a Ph. D. (Sr.), but he had seen that she could overcome that.

She was a beautiful woman, *who could think.*

The entire situation abruptly changed.

She said, hesitantly, "The . . . There *is* some general principle, isn't there?"

"Yes," he said finally, "there is. And you can express it in various ways."

There was a brief silence, then Henning said, "For instance, 'Easy come, easy go.' If we casually toss our hard-earned methods to people, they won't value them. 'A man truly appreciates only what he has worked to acquire.' The people here have to work to acquire our methods. Having put so much effort into it—having invested their own time and thought—*the knowledge and skill are theirs.*"

She drew her breath in sharply. "Yes, yes. I see it! But don't they suspect? Won't they feel they've been deceived—"

Henning snorted. "Why do you suppose they use padded spears and arrows? Why do they leave off the metal tips of their javelins? Why do they capture our technicians instead of killing them? Do you think they could see our ships come down out of the sky in a blaze of light and not suspect that we have weapons and equipment more powerful than we use? Don't you realize that humans operate on several levels at once, and are readily caught up in play-

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acting? Why is a man in mental agony over the loss of a game of chess? Why is he cheerful over a well-fought win or draw? Why are sporting contests so heavily attended and the source of so much gloom or delight?"

In the darkness, she caught her breath. She turned to face him.

"You mean . . . It's all . . ." She seemed to strangle on the words.

"It's a game," he said. "It's a delightful manly game, and the rewards are real."

She seemed to sway, dangerously near the parapet, and Henning caught her.

She struggled, but not nearly so hard as she had struggled earlier.

Henning drew her close, but with not nearly so much force as he had used to get her out of the line of fire.

She whispered. "Aren't you going to throw me over the wall?"

"Not yet."

"First, you want my signature on the report?"

"Obviously."

She murmured something that Henning didn't hear.

He drew her closer.

"What?"

She whispered in his ear, "Games. People play games."

Henning nodded, and looked past her at the horizon slowly lighting up as the moon began to rise. In just a few minutes it was going to be as private here as on the stage of a theater.

Casually, he said, "Have you ever examined the walls?"

She looked puzzled. "No."

"There's a place here, partly hidden by a screen of foliage, that we use as a listening post. From a mathematical point of view, the curve of the walls might interest you. If you'll be quiet—"

She looked at him, first with disappointment, then with suspicion.

"All right," she said finally, and let him take her hand and lead the way.

Beyond the wall, the moon was rising, lighting up the alien planet, to show forest and grassland gleaming with dew.

Suddenly it came to her, as actual knowledge, why the people of this planet, in whatever guise, knowingly or unknowingly, followed Henning's lead.

They *trusted* him.

And why did they trust him?

His actions showed sympathetic insight into their real nature.

And what textbook or course of study taught insight, or even recognized its existence?

She thought back over reams of authoritative data. All beside the point.

She shook her head.

What a lot there was to unlearn! ■

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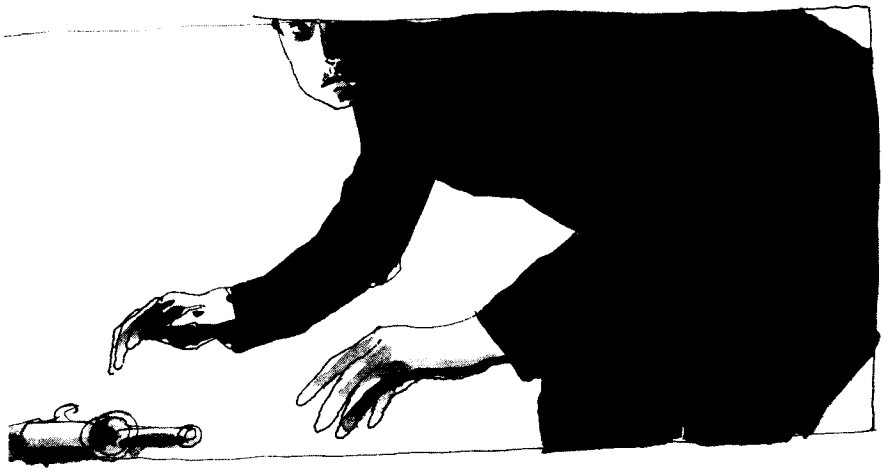

THE INEVITABLE WEAPON

The problem with any weapon is not what it is, nor how deadly it is—but who's got hold of it. And in this case it was a hand weapon, unsurpassably deadly. And the wrong people were grabbing . . .

POUL ANDERSON
Illustrated by Harry Bennett

As his left hand chopped down across the redhead's gun wrist, bone-crackingly hard, Devlin's right slammed edge on into the man's neck, just under the angle of the jaw. There was a short horrible noise and the redhead folded where he sat. Devlin had already thrown himself across the lap of the one they called Vero, seated on his right. He pinned that pistol down with his body and struck with the back of his skull into the face behind. The blow sent a crash and a jag of scarcely-noticed pain through him. But it must have made ruin of Vero's nose.

The victim uttered a bubbling roar. However stunned, he clung too fiercely to his weapon for Dev-

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lin to break it loose in the second or two available. Hawkridge was turning around in the front seat of the car, hand snaking beneath his tunic. And the burly chauffeur, still never opening his mouth, had flipped the thrust control into reverse.

Devlin being unharnessed, deceleration flung him against the seat back before him. The car slewed across the mountainside, air cushion booming. Since first he attacked, Devlin hadn't stopped to plan. That would have slowed him fatally. He let muscles, nerves, and instincts think for him. They decided to reach past Vero's shoulder, unlock the door, fling it wide, and dive through.

At thirty or forty KPH, Devlin struck hard. Trained—on the Moon and in space as well as on Earth—he rolled downhill. Bushes whipped and clawed him. He was briefly, wildly aware of their pungency; then iron-tasting blood filled his mouth.

He came to a halt in a clump of gorse, or something equally prickly. Bouncing to his feet, he ran several meters crouched and flattened himself in the gloom under a low, gnarled juniper. Luna was down, the Greek night stood luminous with stars. The flank of Mount Parnassus was almost gray beneath that sky. He'd show against the ground if he wasn't careful.

Above him, the ridgetop bulked black. Equally black were the distances, hardly relieved by a far cluster of lights that meant a village—Arachova? Levadia?—and the valley beneath. Somewhere down there was the crossroads where Oedipus met and slew his father. Devlin toiled for breath. His throat and lungs seemed afire. Sweat stung his scratches and soaked his now tattered clothes. His heartbeat shook him.

The car prowled into view past the tree, a dozen meters uphill. Its headlamps were dimmed, not to interfere with the dark vision of the men who hunted him; so he could make out the teardrop shape. The motor was throttled back to move it on the merest whisper of air. Those two he had struck would soon get back their capabilities. Devlin lay quiet.

The car quested back and forth like a sniffing hound. But this was a big and empty landscape. Shadows were many. Devlin judged that he had a good chance of eluding pursuit until daylight. And then the tourist traffic from Athens to Delphi would get thick, and a car that acted peculiarly would bring the police for a look. Hawkridge couldn't afford that. Some of the tension left Devlin. He grinned, noticed chirr of crickets and summery warmth, shifted position and wished for a cigarette.

The car stopped. Its warning speaker boomed forth, Hawkridge's clipped accents turned immense and demonic in the aloneness:

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"Well, Devlin. Congratulations and all that. But I wonder if you can reach Joubert sooner than we can."

Devlin's fist smote the earth beneath him.

"Of course, I prefer that you surrender, and guide us in and vouch for us to him," Hawkridge went on. "I prefer it so much that I offer you a full pardon for your cooperation. Otherwise you'll be executed when we arrest you again."

"Pardon? Execution?" Devlin said low in his gullet. "Have you really swallowed that elephant pie, dear heart? That your glorious leader Soulis is the rightful lord of the human race? Really . . . oh, truly . . . oh?"

And himself answered, *He might become precisely that, by right of conquest, if Hawkridge beats me to yonder house.*

"You have three minutes," the voice said. Echoes rang remotely.

He has to find the place, storm it, capture Joubert and whatever Joubert has, before dawn, Devlin realized. *Else an affray there will be noticed and somebody'll call the gendarmes. Which Joubert wouldn't like either—only he'll like it much less if he falls into the claws of the Soulis crusaders.*

Ergo. Hawkridge can't waste time trying to ferret me out.

"Your three minutes are up," said the voice. "I will see you another day, traitor." The car whirred into speed and slanted off downhill.

Devlin rose and peered after it. Some three kilometers valleyward, the windows of a single house made yellow sparks. He had had only a casual, visitor's familiarity with Greece. But he had prepared for this job with his usual thoroughness. Among other things, he had memorized the local terrain. Really memorized it, loading his cells with RNA-stimulase while he studied every bit of information the data banks at the Royal Geographic Society could furnish him. As often before, in similar situations, he had the eerie feeling that a part of him had always lived here.

The very night noises, big soft stars, village lights—yes, certainly Arachova—resiny smells and warmth, were as if in his marrow. The house belonged to one Georgios Nasou, a banker who commuted to work. Poor Nasou, when he let fanatics in . . . No. Hawkridge wasn't that stupid. He'd make courteous inquiries, he was trying to locate a friend, did Kyrios Nasou perhaps know of a foreigner who had established himself somewhere in this neighborhood, had no telephone, led a secluded life—?

Kyrios Nasou might. In that case, the game was up. But more likely he did not. Prosperity and airblast cars had turned the Athenian hinterland into another impersonal suburb; a worldwide privacy fetish had modified the curiosity even of Greeks; and it had extended, O miracle, to the Greek bureaucracy

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itself, so that official records—e.g., of a resident outlander—were minimal, buried in computer-tape molecules, accessible only with a search warrant.

Probably Hawkridge would have to cast about for an hour or better, until he found someone who could direct him. In that case, Devlin could reach Joubert first.

Not that Devlin was sure how much good that would do, when Joubert had cut himself off. No way to call for help. Unless by hiking five kilometers to the next inhabited house—out in the open, exposed to Hawkridge's swoop . . . Devlin shrugged. Cautiously, not to be spotted from afar, but quickly, he jogged over the mountain.

Mostly, he concentrated on making distance. A part of him couldn't help wondering how it would all end.

It had begun, for him, with a letter. He got a lot of crank communications, and might have dismissed this one. But (a) it had not been on his phone tape, it had come by post, though it originated right in London; (b) the tone was sensible, despite the claim of urgency and importance; (c) the signature was in a delicate hand and read "(Miss) Alice Joubert." Peter Devlin was as susceptible as the average young bachelor.

He had two other cases already, but one was marking time and the other was in the capable, if hairy, hands of Sergei Ilyitch Pyeshkov. So on the appointed day, he told Maria to hold the fort, and boarded the underground at Russell Square. He emerged at Maida Vale and strolled to the address on Sutherland Avenue. The weather was sun-squanderingly gorgeous, as English weather can be, if only by contrast with its norm. Trees lifted young leaves above pavement, a policeman beamed at a pram-pushing nanny, an American photographed a quaint lorry with real wheels, and Devlin knew that the cut of his own tunic, the tuck of his trousers into his boots, would have drawn admiration on Savile Row.

The apartment building jarred him a bit. He didn't care for architecture that, planted on solid Earth, pretended to be inspired by a seadrome or a Martian base. But then, not everybody could find two hundred year-old lodgings in Montague Street like his, possibly seen by an aged Victoria I.

What tautened him was two of the cars which passed. His memory was educated to retain data such as license numbers and abrasions. And he recognized, glimpsewise, one driver. Scotland Yard had this area under surveillance.

The lift and a slideway brought him to 2236. A female voice called shakily, "Who is there, please?" and he could imagine how his features were studied line by line on the door scanner.

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He donned a smile. It was a civilized but carnivorous expression, reassuring only if she believed he was on her side. He looked more Iberian than British: tall, lean, with eyes that were a startling blue in the dark hatchet face. "Peter Devlin," he said with a slight bow, "private ombudsman, at your service."

She let him in. The hand that took his shook a little, as did her laugh when she said, "Welcome. So good of you to come, and not to call me Zhoo-bare."

"I took the trouble to check beforehand," he said. "You-bert is the South African pronunciation; and you are the daughter of Claes Christiaan Joubert of Capetown and Cambridge. Brilliant but eccentric scientist, beautiful daughter—got to be true. Nature imitates art and all that sort of thing, eh?"

She flushed. Without "Who's Who," he might have guessed anyhow. She had the ranginess, and the blondness, and that faint hint of remote Malayan mothers—in tilt of eyes and nostrils—which makes for beauty but may in part have caused the former racism of the Boers. Her dress was a blue cheong-sam, modern without being especially modish. The furnishings of her flat, the books and periodicals, bespoke her similarly. Devlin decided he liked her.

"I'm sorry," he said. "No intention of making silly jokes when you're in bad enough trouble to need police protection."

"How do you know that?" she almost whispered.

He nodded at her bracelet. "I can spot a transistorized alarm under those jewels. Their pattern's characteristic. And a bit garish for you. Also, C.I.D. cars patrolling close. Suppose we sit down and you tell me why you'll confide in a troubleshooter for hire like me, instead of the police that your taxes have already paid."

He saw his legend building up in her eyes, and his inward grin was wry. Glamour was part of his stock in trade. He could and did engage inconspicuous men to do whatever detective work he found necessary. In fact, what he essentially offered was an efficient little organization. But he first saw each client personally and played Devlin the wily, the merry, the unconquerable, the last completely individual member of mankind, who could take on anything from a blackmailer to a bureaucracy, and laugh as he fought.

He was careful not to explain how much hard and humorless work lay behind every operation.

Nonetheless, Alice Joubert must force the words out: "Father's having . . . having difficulties . . . of some kind . . . with the authorities — You won't give him away?"

"Not if he hasn't done something horrible," Devlin said, "and aside from their lectures, those academic types rarely do."

"But you might be forced to tell. They'll know you were here and—"

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"Please." Devlin guided her to a seat. "Do ease off. Have a happy-pill, or a reefer, or best a Scotch, in which latter case you may invite me to join you. Remember what I am. My license is international, directly from the World Union, and it puts me in the same privileged position vis-à-vis my clients as a doctor or a priest. With so much traffic across borders these days, so many people living in countries they aren't citizens of, so many major problems for officialdom, it's simple necessity to let some private agents operate on a worldwide basis. I'm certified pure, first by His Majesty's Government and then by Interpol. But they know, and you know if you'll stop to think, I can't be expected to bother them with every wretched little technicality. That'd destroy my usefulness and I'd have to go on Welfare and the rolls are quite long enough already, thank you."

Childish and obvious though it was, perhaps for that very reason, his chatter calmed her somewhat. She did pour him a drink. But she said, quickly and harshly: "My father is also hiding from the people who tried to kidnap me. When they couldn't find him, they thought I'd know. Or so I suppose. My apartment was entered and—Well, luckily I'm a light sleeper, and strong for a woman, so I broke away and screamed for help, and they ran. Later someone tried to get me to a cheap hotel in Southwark. Phone call, pretending to be from a friend. But I persuaded a plainclothes detective to trail me, and the man at the rendezvous was no one I had ever met, and he fled when we tried to question him. After that, the police agreed I needed a full-time guard. Besides, I'm sure the authorities have some inkling of what may be at stake."

"Which is?"

"The rule of the human race, I suspect."

Later Devlin did not use his customary direct line, from his armchair in Montague Street to Maria in the office. He didn't see how it could be tapped without his knowledge; but the putative enemy had considerable resources. He sought Maria out in her private dwelling place behind the room where he received clients; and he told her what he had been told.

". . . I got her soothed, swore by the nine gods that I'd not pass on the information to a living soul, and left. She's safe, I believe, as long as the competition isn't certain that she has her father's address. But I'm no longer cocksure about me. So let me summarize what appears to be the situation, as pompously as possible.

"Claes Christiaan Joubert, age fifty, widower, one child of the female persuasion named Alice, age twenty-two. Nobel Prize winner in physics, for something having to do with space-time coordinates that

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the best efforts of the B.B.C.'s Third Programme have failed to make me understand. Except that it involves a theoretical way to travel faster than light. *Except* that when you say this to a physicist, he assumes a martyred look and insists there's no such thing as faster-than-light motion and the Joubert equations merely suggest that every point in space time is in some way homologous with every other point. Is 'homologous' the word I want? Sounds vaguely indecent. Identical, perhaps. At any rate, Joubert's work did show there's a way around the Einstein speed barrier, in principle if not in practice. You can go from here to there by making here the same as there, so the space between needn't be crossed.

"Now I don't see what's dangerous about that. Opening up the universe to people? Sounds like fun and boodle to me. Evidently the world agrees, because in the fifteen years that followed Joubert's early work, millions of talented man-hours went into trying to develop it further. No luck, though. The proof that point A can transform into point B helps explain things in the shuttlecock world of atomic nucleus. But it gives no hint as to how to capitalize on that fact in the macrocosm, where the uncertainty principle doesn't loom conspicuous.

"At any rate, Joubert got a professorship at Cambridge and spent the last several years in England with his daughter. Much occupied by his paper-pencil-computer work; published little; taciturn about his progress, though normal and friendly otherwise. Until, six months ago, while on sabbatical leave, he disappeared. He'd talked about visiting colleagues in Moscow and New Delhi, but they never saw him. Note to Alice said she mustn't worry, he'd gone off to be alone while riding a new train of thought. She has a job in the City; thus he caused her no problem. Till she didn't hear from him and didn't hear from him.

"She's a bright girl. She checked Daddy's past as well as present associates. Found a simultaneous disappearance: James Lewanika, a Rhodesian physicist. He's the experimental rather than mathematical kind, but a brilliant chap who'd been on the same faculty in Capetown as Joubert and had devised some critical tests of his theory. Lewanika had taken leave, too—with wife and children, he being a domestic sort—and no one had heard further.

"Recently Alice got a letter from her father. It was posted via one of those automated remailing services with a five-minute memory; but it told her where he was, in Greece near Delphi. She destroyed the letter, as per request, but could practically recite it verbatim to me. It was a pathetic, desperate document. He said he was in some unspecified trouble with the law. She must not reveal his whereabouts or she'd ruin everything. He didn't

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know how he was going to get out of his dilemma, whatever it is. But if worst came to worst—if she was endangered herself, or if she didn't hear from him again in six months —she'd better go to Interpol. They could go to the house he and the Lewanikas had taken, under false names, and outfitted piecemeal. Behind a loose brick in the chimney they'd find an account— How frightened he must be, to get that melodramatic!

"Alice is an old-fashioned girl with old-fashioned loyalties. She won't betray her father to a possible prison sentence. But after those kidnapping efforts, she must look around for help, and she settled on me."

Devlin cleared his throat. "Now we come to those attempts," he said. "They didn't occur in a vacuum. She'd been under different kinds of pressure. For example, two of Joubert's colleagues, one at Cambridge and one in Peking, have repeatedly tried to get her to tell them where he is. They claim it's vital, but they get vague—or somewhat bullying—when she asks why. Of course, she's told them she doesn't know, but they seem skeptical and didn't quit at once. The skepticism is logical. They're doubtless aware that Joubert and his daughter are close-knit." Devlin named the men. "Have them checked out, Maria. But I've heard speeches and read articles on political topics by one of 'em, and I'd be surprised if his mate doesn't share his admiration of Soulis. Also investigate"—he named the company—"that insisted it was trying to locate Joubert to collect a bill, but never produced satisfactory evidence of this. I know a little something about that outfit's ownership.

"Now, I checked with the Yard. Might as well, since they've seen me enter her place and would take for granted I've been retained. We sparred beautifully, Greenough and I. He wasn't admitting a thing; but plain to see, Whitehall's also more than a little interested in the case, and would love any clues to the elusive professor's whereabouts. And doesn't dare say why it's interested, either.

"Baffles me, frankly. And Alice. She can only guess that there is a menace, not what it is. I wonder if the government or the enemy have a very clear idea themselves. I suppose their tame experts have suggested some possibilities. But what?

"Let's say Joubert has found a way to pull a switch and, suddenly, be at Sirius or Andromeda. What's the harm in that? A few military notions occur to me, but nothing crucial. Besides, the world's reasonably united. An outlet, a frontier is precisely what we're in bad need of. This Solar System has just one planet fit for human habitation and we're overcrowding it. Also, I may be a layman, but I'm not naïve. If Joubert has made a theoretical

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breakthrough, it's going to take years of hard, slogging R & D to produce a working star ship.

"And supposing someone did get such a vessel, quite to himself, how could he conquer the world with it? The world wouldn't even pay much money for the secret. Knowing such a thing could be done, any large corporation or research ministry could duplicate the feat.

"But something here is mortally dangerous. Inspector Greenough hasn't been told what. He's simply been told to keep his mouth shut. But his orders must have been delivered in such an ominous tone of voice, that he felt he'd better exercise his discretionary powers and help me a little in the hope I could help him. He showed me the minipic his plainclothesman got of that fellow who tried to lure Alice to the hotel. Yes, I recognized him, and didn't mind telling old Greenough. A sergeant-at-arms—euphemism for bully boy—in a local branch of the British Reform Party. Which is part and parcel of Soulis' worldwide political movement." Devlin grimaced. "You may take 'movement' in either sense, Maria."

He paused before naming names and specifying places. "I think I'd better handle this one myself," he finished. "Speed and quietness seem to be of the proverbial essence. Besides . . . I promised Alice I wouldn't reveal her and her father's secrets if I didn't absolutely have to —not to any living soul."

Whrrr, said Black Maria. *Click.*

Devlin put a time lock on the memory spool he had used. He'd feed further information, as he acquired it, into the same place. If anyone else tried to get at that spool, Maria would wipe its molecules. (Under certain unambiguous circumstances, she'd also fire a barrage of cyanide needles.) After three months, had Devlin not cancelled the order, she would call Sergei Ilyitch and tell him what was stored in her.

Devlin didn't worry further about that eventuality. If it arose, he would probably have been dead for some while. He had a great many things to learn, a great many preparations to make, in the next few days before he left for Greece.

As matters turned out, he left sooner than planned, and not of his free will.

For generations the cottage and its outbuildings had belonged to a peasant family. But no one, in an age of algaculture and synthetics, tried any longer to farm under Mount Parnassus or herd sheep along its holy slopes. Everywhere low, thick white walls and red tile roofs were left to crumble away—or converted to picturesque resorts, which Devlin often thought was a shoddier fate.

This single place had been restored for uses that Zeus the Thunderer might have approved. It crouched under a stand of poplars,

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that whispered as a breeze cooled the air a little. A couple of windows glowed with ordinary light; but from what had been a barn, flickered an eldritch greenish radiance.

Gasping and stumbling, Devlin reached the main door. It was solid wood, without opener or scanner. But a bell hung from a bracket, dully gleaming in the murk. Devlin pulled the string again and again. The peal went strident across the night. Somewhere, very far off, a dog barked; but no other habitation was visible here. The lights and whistle of a jetliner passed overhead, sloping down toward Piraeus, and only deepened the aloneness.

The door creaked wide. Momentarily, dazzled by the luminance behind, Devlin saw the man as a black silhouette, a hole in space through which he must pass. He leaned on the jamb, gulped long drafts of air and let his knees shake. So dry was his throat, he didn't know if he could speak.

The man saw his rags, saw he was no Greek, and stepped back. "Ellen!" His voice was rough with fear. *"Vootsack!"*

"No," answered a woman's tones. "I stay. You fetch Jim, sir." Aloud: "You, yonder. What do you want at this hour?"

Devlin lifted his hands, palms forward. *I got here in time,* he thought. *Maybe. Ahead of Hawkridge, anyhow.* That much victory, and the need for action, strengthened him. His eyes adjusted, he looked into what had been the main room. Cheap modern furniture seemed the more flimsy between those massive, irregular walls. The man who confronted him was stout, snub-nosed, white-haired, carelessly attired, with a pipe between his fingers: yes, Claes Joubert. The woman behind him must be Lewanika's wife. She was lean and stern-looking, and she carried a knife that seemed sharper and better balanced than necessary for kitchen use. Devlin remembered that she had children, doubtless asleep now, and that this household lived in fear.

"Your daughter sent me," Devlin said.

"What?" Joubert exclaimed. *"Nie!* She would never—"

"Let me in." The words rasped one by one from Devlin. "Call your associate. Get ready for trouble. I can prove . . . but for mercy's sake, can I have some water first?"

Ellen Lewanika regarded him grimly, reached a decision, and slipped out past him. She meant to check the grounds, Devlin guessed, before calling her husband, who must be in his laboratory. But she felt the stranger was worth taking a chance on. Joubert swallowed. Seen close by, the physicist's face was haggard, with a tic playing in one cheek. He was not cut out for a bandit's existence. "Come," he said, and led the way to a somewhat modernized kitchen.

Having drunk deep, Devlin intro-

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duced himself. "You may have heard of me," he added.

"Well . . . ah . . . out of my line, you know," Joubert said.

A bit taken aback, Devlin explained why Alice had called him in. Joubert lurched where he stood. The pipe dropped unnoticed from his hand. "No," he croaked, "it must not be."

"She's all right now," Devlin said. "Full police protection. But the incidents made her realize you, too, must be in danger. At the same time, because you seemed to be hiding something from the law, she wanted an unofficial emissary. I was to find out what your problem is, and help you if you need help."

James Lewanika had entered with his wife. He shared her look of tigerish puritanism. "Have we any proof of your bona fides, sir?" he asked.

Devlin nodded. "Miss Joubert and I worked that out," he said. "A letter could be forged or stolen. But what outsider would likely know that her nickname in the family, till she was four or five years old, was Kleinemein?" He multiplied details until Joubert wrung his hand, near tears, and the Rhodesian couple gave him a smile.

It was short-lived. "You had trouble en route," Lewanika said.

"Tell me more," Devlin snorted. "See here, what have you got for weapons?"

Joubert half opened his mouth. He closed it when Lewanika shook his head. Ellen spoke slowly: "This knife. Firearms are one of the few things that still don't cross borders without red tape. And we dared not draw attention to ourselves."

"Professionals can smuggle them through," Devlin said. "The people who'll come calling here tonight—at any minute—are quite well heeled. I think you had better collect the children. With luck, we won't be seen in your car till we're someplace where we can rally the police 'round us."

"No," Joubert said. His voice was harsh with pain. "We can't."

"At the very least," Lewanika put in, "our duty is to destroy the apparatus first. We cannot risk its being captured." He drew breath. "My wife and children should leave immediately in the car, I agree. We men can go later, on foot. I trust you can show us how to elude pursuit, Mr. Devlin."

Ellen objected. Her husband spoke to her in Luangwa, as if to assert traditional authority. Meanwhile Joubert mumbled, "What happened to you? Who is the enemy?"

"I was seized myself," Devlin said. "Smooth operation. I didn't know they were that well organized. By now I suspect their attempts on your daughter were deliberately bungled, in the hope of smoking you out. Afterward they kept her under their own surveillance, and once they saw I was on the case . . .

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Never mind details . . . I was captured, spirited away, and put under electronarco. D'you know how that works? It isn't really the 'truth treatment' the average man thinks. It does submerge the will, but at the same time it confuses the subject so much that close questioning isn't practicable. They did learn that you were in Greece, near Delphi, with just this retinue, living pseudonymously."

He took out a cigarette and lighted it with quick, nervous puffs. "A proper search would've turned you up eventually, understand. But the enemy is in a hurry, too. So a chap named Hawkridge, and three tough chums, beetled down here with me. Idea was, I'd guide them to this house, and you'd admit them on the strength of my credentials. Well, I came out of the narco sooner than they expected, and didn't let on, and watched my chance. Thus I escaped. But they won't be long finding you."

"Who are they?"

"Surely you've heard of Soulis. The prophet of malcontent political gangs in half the countries of Earth —the New Humanity fellow—once upon a time, his creed would've been called fascism. Evidently, whatever you have here offers a way to seize power by revolution."

"It does that," said James Lewanika darkly. He had won his argument with his wife, who left.

"No." Tears stood in Joubert's eyes. "Worse. A way to ruin Earth."

"Hm-m-m?" Devlin let smoke trickle slowly from his lips.

"That's why we're hiding," Joubert said. "We've done nothing criminal. I only told Alice that to make sure she wouldn't seek me out, endanger herself. Listen, we are trying to find a way to make the thing safe. But everything we do seems to make it more efficient, more terrible."

"Quite a few things were supposed to doom us in the past," Devlin murmured. "Somehow, they never did."

"Suppose you come have a look," Lewanika said.

Devlin followed him and Joubert out the back. The South African talked and talked, a Niagara, as if words could fend off wolves:

"You may know the principle already. The coordinates of a point in the continuum are more than a mathematical fiction. They are uniquely specified by the value, at that point, of the wave function whose singularities represent individual particles and whose sum represents the universe. Coordinate transformation is possible. This would make any chosen point identical with any other. I speak loosely, but that is the effect. The phenomenon does occur in nature, on the subatomic level: events that were formerly described in probabilistic terms. Actually, nature is deterministic, as Einstein so stubbornly insisted; and my work has bared some of the mechanism. The difficulty

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was in practical application. There seemed no way to lay hold of a wavicle, so to speak.

"Well, at Cambridge I pursued my studies further. Various experimental results obtained by Dr. Lewanika in his country were most suggestive. Corresponding, we began to see how the task might be accomplished. If certain resonances are established in a plasma— No matter. I should not say that much, even to you. The result is more sinister than a thermonuclear bomb."

They stepped out into the courtyard. Devlin glanced at the stars. Always, to him, they had seemed bright with promise. He asked slowly, "What's so bad about becoming able to travel—yonder—to the ends of creation—in our own living lifetimes?"

Joubert tripped on an unseen cobblestone. Lewanika steadied him. Joubert said, shrill-toned:

"We can't do that. Not yet. Oh, eventually, to be sure. But the engineering difficulties are great. Consider merely the energy difference between here and some other place in the galaxy. Gravitational potential; proper motion; orbital velocity; rotation. And then, to transport solid matter, however small the amount, requires a far larger transformation field than we can generate. Edge effects limit us, not to mention a hundred other difficulties. Yes, they are each soluble. But to go from what is in our laboratory, to an interstellar expedition, will be comparable to going from a Chinese festival rocket to a modern Martian supply ship. And I doubt if mankind—civilization, at least—would endure so long.

"You see, what we can now let through is starlight."

And suddenly the skies were altogether cold and strange.

The men entered the old stone barn. Lewanika snapped on a fluorescent. Its glow showed workbenches, experimental apparatus of the sort at which Devlin could only gape, a haywire tangle of work in progress. Lewanika picked up an object. "Here," he said, "my most successful model to date."

Devlin took it. He saw something like an outsize flashlight, streaked with solder and tool marks. On the tube were a slide and a pair of circular dials, with vernier gradations. At one end was what resembled a flaring reflector, but no lens or bulb. Devlin hefted the weight. Half a kilo?

"The power source is a couple of dry cells," Lewanika told him. "The transformation circuits are inside. They're quite simple, once you know how to make them. I hoped at first that the requirement of resonance in a hydrogen plasma would limit the availability of this apparatus, but I found that any room-temperature superconductor will serve. The main problem is control. The least error grows large over light-years, you see. Still, you can

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find your setting empirically, and relative motion isn't likely to matter for a short-time use."

"Light comes through," Joubert sighed. "It makes up energy differentials by a slight change of frequency. Fast-moving particles can also cross—nuclei, electrons, mesons. The actual 'gate' is a one-centimeter circle where two small regions of space are made identical. It appears at the focus of that 'reflector'; hence the apparatus is safe from being touched by the energy. And the circle has finite thickness, being actually a thin disk; hence the beam that emerges is highly collimated."

Fear walked on Devlin's spine. "How do you make sure the energy comes out frontwards?" he asked. "Couldn't it just as well go back, into the tube and the operator?"

"No, that's controlled by an elementary orientation circuit," Lewanika said. Abruptly he shouted: "The whole thing is elementary, when you know how!"

Devlin locked eyes with Joubert. "What are you afraid of?" he said. "With such a weapon, you could stand off the world."

"Until the world made its own," Joubert retorted.

Lewanika added, with iron practicality: "Energy has no value, Mr. Devlin, unless it can be applied where you want it. An inexperienced man with this tube in his hand can aim wrong, or be shot with an ordinary bullet by another man who's crept up behind him."

"And then the fat is in the fire," Devlin agreed. "All right, gentlemen, let's get the deuce away from here. I suggest we use the tube to demolish your lab, but keep it while we run for safety and—"

And a woman cried out in the house.

Lewanika cursed and whipped from the barn. "No, you fool!" Devlin yelled. *But that's his wife,* he remembered an instant later. *His kids. And he's not had any combat experience. He recognized his limitations . . . which may be why he never did try to rig defenses here . . . but now when the chips have rattled down, he's forgotten.*

He grabbed Joubert's arm. The physicist stood as if paralyzed. Devlin half dragged him away from the entrance and doused the lights. "Stay back of me," he muttered, and risked a peek. The courtyard lay like a puddle of night. There was a brief gleam as Lewanika went into the cottage through the back door. No doubt what caused Ellen to shout had been a car arriving at the front.

"Listen," Devlin said in Joubert's ear. "If anyone in the cosmos should not have this gadget, it's the Soulis gang. Or have you ever seen what's left after their plug-uglies finish with a man that's offended them? You stay here. Barricade yourself. Keep in the dark. I'm going after them."

"With that?" Joubert groped

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blindly for the tube. He almost sobbed. "You can't. The radiance alone—"

"Thanks. I'd forgotten." Devlin glided to the workbench. A glasite-fronted safety mask lay among tools and wires. It had a visor, of extreme optical density, that could be swung down. He slipped it on his head. "If I fail," he said, "maybe you should set a fire here and cut your throat. I don't know. But don't be impulsive about it. Sit tight and wish me luck."

He went forth. Crouched, zigzagging, from shelter to shelter, he found the poplar grove and thus won a view of the front of the house.

Hawkridge's car stood there indeed. The man himself must be inside, for his voice, calm and immensely magnified, rolled forth: "I repeat, open your door."

"No!" Lewanika answered. He must have bellowed to be audible through the walls and closed small windows. "Get away!"

"In one fashion or another, we have to take you," Hawkridge said. "I don't want to sound theatrical, but the issues are large. We know you have a wife and children with you. They will suffer if you and Professor Joubert don't cooperate."

Ellen uttered a cat-yowl of defiance.

"Get them," Hawkridge ordered.

The redheaded man—Devlin knew him by his build, a lean shadow—emerged. He carried a sleepy-gas gun. Vero joined him, armed with a cyclic rifle, covering his back and flanks. They moved quickly, with practiced care, to the cottage.

Devlin groped in lightlessness. The tube was cold in his hands, the controls unseen. How did you activate the bloody machine? How did you locate . . . the sun, a star, any star . . . when the stars were as lonely as dust motes in space?

The redhead stood by a window. He tried to break it with the gas gun butt, but the glasite resisted his thudding blows. "Vero," he said, oddly clear against crickets and remote, howling dog. The cyclic rifle hissed, the pane shattered. Lewanika roared in an anguish of helplessness.

There came a rustle, a whine, a breath of chill from the thing that Devlin gripped. The sound was covered by the *brroo-om* of the gas gun, pumping the cottage full of anesthetic. What was going on? Devlin risked putting a hand in front of the tube, and felt a slight wind. Realization jarred him. He'd opened the gate. On empty space, of course, as probability dictated. Earth's atmosphere was streaming into a void—how many light-years hence? Not fast; remember that energy barrier, which not every molecule could overleap; and besides, a one-centimeter hole was no great leak in the sky. But he, Peter Devlin, *he* had opened it. He stood stunned with wonder.

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"Are you coming out," Hawkridge called, "or do we gas you to sleep and drag you out?"

I've got to strike fast! It's no good otherwise. But how to find a star? Joubert and Lewanika must have worked out a few settings. But I— Wait. The coordinates are surely polar. Hold the two angle controls, the dials, constant. Move the slide. Sooner or later, a long enough straight line has got to pass near something. Devlin took aim and advanced the bit of metal.

A beam of dull red light struck forth. It was gone again in a moment as the inertia of his fingers carried the control past that point. Briefly, though, it had painted the front of the house with a color like blood.

Useless, useless! The gate had blinked millions of kilometers from some feeble red dwarf . . . Worse than useless! Hawkridge shouted. Vero and the redhead spun about, scattering from each other.

"That must be the weapon!" Hawkridge rapped. "Get him before he gets us!"

Vero's rifle cut loose.

Joubert, Lewanika, Ellen, Alice, any normal gentle human would have stood no chance. But Devlin had reacted before he realized what was wrong. The bullets slashed meters from where he had been. He lay on his belly, shielded somewhat by a tree trunk, and took fresh aim.

He recalled the mask he wore. Dismay slugged at him. Without protection, his face might be cooked by the beam he needed. And that would leave him helpless to whoever survived the initial blast. But with his visor down, he'd be blind until he got enough light to penetrate its near opacity. Wouldn't that immobilize him too, until the bullets found him?

"We can but try," he heard himself say low, and clapped down the hood.

His kinesthetic and directional senses told him the tube was still aimed. He worked the slide farther. Another shout. He'd betrayed himself again, to no purpose. But he'd moved, rolling and slithering in the brush, using the myriad nonvisual clues of breeze and scent and sound and motion that the body offers to those who can recognize them. He continued to point at the enemy, more or less, and they hadn't nailed him yet.

His world lit up. He saw that illumination as the blue-white glare of hell. Anyone who looked directly at it, with naked eyes, must have been blinded. The light fused the earth where it touched; steam exploded; thunderclaps rolled the length of the valley; ions and ozone blew about with the smell of storm.

An instant only, until he lost the setting. But the redhead wasn't there any more. The beam had touched and vaporized him.

Vero's gaze had happened to be averted. He was a brave man. He

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crouched where he was and fired. Devlin was a more experienced man. He faded back behind the nearest tree. When he found the setting again, he destroyed Vero.

Agony ululated from the car. The chauffeur must have looked upon the fiery sword. Devlin had a brief gladness that Joubert and the Lewanikas were safe behind walls. But Hawkridge remained functional. The car started. It clawed for momentum, gathered speed, swung about and rammed straight toward Devlin.

He got it just the same. It showered away in a million sparks. After all, it had been touched by the finger of a nova.

Morning crept over the mountains. Blue brightness hid the stars. But our sun is also a star, and the temperature at its heart is more than eleven million degrees Kelvin.

Ellen was taking care of her children. Her husband was abed; trying to protect her, he had received a big enough dose of gas that he'd be a few days regaining his strength. Devlin and Joubert sat in the kitchen.

"No," Joubert said, "I'm not hungry."

Devlin helped himself to another piece of crusty bread and more coffee. "Are you conscience-stricken about the casualties last night?" he asked. "I assure you, I'm not. And don't worry about official action, either. Even in England, we'd be within our rights of self-defense; and the Greeks are more realistic."

"But we can't tell!" Joubert protested. "We . . . we mustn't . . . not anyone." His eyes were sunken and feverish. "Hitherto, the evil possibilities of the transporter were . . . an abstraction . . . something that frightened me so much that I fled, but nevertheless abstract—I didn't doubt the basic good intentions of most governments, I only felt that none would be able to cope with the problems. Now I've seen a worse, more immediate horror than that!"

"Oh? I was pretty glad of your little gadget, I can tell you."

"But can't you understand? The devastation! A bigger, more efficient apparatus . . . but a cheap, simple one, which anybody can make— This first quarrel over its possession was picayune. Wait until mutual fear among nations breaks the Union apart. You can imagine how soon man would be ruined!"

Devlin grew serious. "Don't you expect somebody else will duplicate this in the next several years, whatever you do?" he said.

Joubert's gaze dropped to his hands, which twisted over and over each other. "Yes," he mumbled. "I thought, though, my own obligation —or maybe we could find a safeguard—or at least a little more time for people to live in, before the end."

Devlin finished his breakfast, leaned back and started a cigarette.

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"I'm rather fond of living, myself," he said. "But not hidden in a hole, thanks. Especially when someone's sure to come after us with a shovel. No, you and Lewanika are brilliant men, but you dwell too far from the everyday world. Which is really not such a madhouse as it looks. You think it ought to be orderly, because your own minds are orderly. It isn't, and, therefore, you conclude that something's amiss with it. But in fact, the world is merely too busy to keep neat. It is, however, adaptable—largely on account of not being too confoundedly careful and systematic!

"Have you never considered the *good* uses of the transporter?"

"Oh, yes, certainly," Joubert said. "Long before we can transport solid objects, the applications will be fantastic. In essence, unlimited energy, cost-free, pollution-free, almost infinitely adaptable. Not to mention the basic knowledge that would come from a proper research program, and the progress consequent on that." His voice rose. "But man won't live to realize the benefits. He'll kill himself, or go back to the caves, first."

"Why?"

"I told you—"

"No, think," Devlin urged. "I agree we can't let every Tom, Dick, and Hairy-Ape have a transporter tube. But who says we must? I don't think too highly of the average politician or bureaucrat, but he isn't a suicidal idiot . . . which is just what the Soulis people dislike about him. There are such things as security precautions. They don't keep a secret forever, but they do buy time. And in that time, why, look. We can use your energy to do things like running daily shuttles to Mars and Venus, make them over into new Earths, spread man so widely in this one system that nothing can kill the race. Here at home, we can build up sufficient industrial capacity that our ability to recover from catastrophe will always be greater than our ability to inflict it.

"And the harder we push—the more people we do make aware of what you've found, and put to work on development—the sooner we'll reach the stars and be forever safe.

"And who says we have to have any kind of catastrophe? We will, yes, if we make no effort to head it off. But if we face the problem square on, if we fumble our way toward new institutions and new ways of thinking, I'd call our chances excellent."

Devlin was hoarse. He was also very tired, however tightly wound. He gulped more coffee.

"So you think—" Joubert hesitated. "You think I should have stayed where I was and approached the Union directly? Perhaps. Perhaps. I could not make such a decision quickly. I am still not sure."

Devlin shrugged. "I'll take the moral responsibility, if you like," he said. "This is the way it's going to be." ■

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Birth of a Salesman

When it comes to interstellar commercial shipping, we may be in for a variety of problems. Like what race is allergic to who, or goes mad over which . . .

JAMES TIPTREE, Jr.

Illustrated by Kelly Freas

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The heavy citizen swept by the kitten at the desk and bashed through the inner door. The door read: *T. Benedict, X.C.G.C.* Behind the desk, T. Benedict took his head out of his hands and rolled big, sorrowful blue eyes up at his visitor. The heavy man opened his mouth and the phone chimed.

"Exceegeecee," said Benedict into the phone, flapping his hand at the fat man. "Yeah, you need a clearance from us if your product is going to be shipped outplanet . . . Yeah, you need it even if it's for outplanet goods processed here. If they've been touched in any way . . . That's right, Xeno-Cultural Gestalt Clearance . . . I know it's a horrible name, I didn't pick it . . . I'm Benedict. We'll send you the forms . . . Now, wait a minute, the name may be silly, but the function, no . . . What are you shipping? . . . Monomolecular coated bearings? How are they packed? . . . I said, how are they packed? What kind of cartons? Spherical . . . O.K., so you're shipping into the Deneb sector. Going through the Deneb Gamma transfer point, right? . . . Well, look it up, you'll find it has to go through there. So, the minute those spheres of yours come rolling through the transfer, the whole Gamma station crew squats down on its pseudopods and nobody budges a tentacle, because spheres are religious effigies on Gamma, see? And the transmitter stays open —at your expense per microsecond—and your product doesn't move until a local atheist relief squad—at triple pay, your expense —is brought in to move it, right? It's to prevent foul-ups like that that you're supposed to get our clearance on your prototype pack —not after the thing is sealed to go. Right? . . . I'll send you the forms, and you get your samples up here fast. We'll do what we can."

Benedict flipped the still-squawking phone and turned his round blue gaze on the fat man.

"That's the line you gave me!" exploded the visitor. "How wonderful your clearances! Changes to make—the picture to take off the box—the color to be not pink, not red, some lobster on Capella gets itchy—everything you said, we did! And now look—five thousand Happichlor Underfin Gasators I have lying on Candlepower Seven, nobody will move them. What do I pay my taxes for? Incompetent! Imposter! *F-f-f-f!*"

T. Benedict closed his eyes, pulled his hand down his button nose, and looked up again.

"Look, Mr. Marmot—"

"Marmon!"

"Mr. Marmon, our clearance isn't a guarantee. It can't protect you against unknown factors, only against those we know about. With transmitter shipping linking new cultures every week, we get new factors all the time. The picture-label you had, the red lettering, those are known factors on your

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route. Your product would have been severely damaged by nibbling on Capella if those cartons had gone through—that, we know. You'd have had a right to blame us if we'd let them go. But you shouldn't have trouble on Candlepower—we have a Candlepower native on our alien panel, he passed your product. There're only two possibilities: Either it's a transport problem, malfunction or wage-strike, in which case it has nothing to do with us—or you've changed the product."

"The product has been in no way changed. Look!" He slammed a plain black cube and a crumpled message form down onto Benedict's desk.

" 'Six cases of acute depressive fugues among transfer crew. Relief crew affected. Refuse to handle. Held pending.' You've changed the product."

"I have NOT changed the product!"

"And they're all exactly alike? Every one?"

"Every single one to half-micromill tolerance. What do you think we make?"

"Who knows. But there's variance somewhere. Miss Boots!"

A different kitten undulated through the side door.

"Take this upstairs and get Freggle to vet it again. Tell him a shipment has been held up at Candlepower station, acute depressive effects . . . Now listen, Marmot, we'll help you all we can. Either the sample you gave us isn't representative, or our Candlepower representative isn't representative . . . I mean, typical. It's cheaper to check your sample first, so get me some more of them—a gross, a hundred at least. If you get them here today, I'll put them right through—that's step one. Meanwhile, you have a choice: Either wait, in hopes we find something you can fix, or get on the horn and get an itinerant emergency crew down to Candlepower to run your shipment as is. My advice is to get the crew; whatever's wrong is apt to be tough to fix at this distance. Right?"

"But my costs! My costs! While you just sit there—Faker!"

"Marmion, I'm helping you all I can—Yes, Miss Boots?"

On the speaker screen Miss Boots appeared to be replacing her wig.

"Mr. Freggleggleg has just fainted . . . I guess," she said nervously.

"Get that product away from him!" yelled Benedict. "Call Doc Morris! Wait . . . sprinkle some sugar on him . . . yeah, sugar, you'll see the can on his desk. On his feet, stupid, those green things, he metabolizes there in emergencies!"

Miss Boots dove off-screen.

"Well, Marvin, your product is the trouble, all right. Now! First get me some of the original sample—the one we passed. You have some? O.K.; get lots. And then some later

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ones, and then a batch of these, like the ones you shipped. Right? Lots—I don't care, send a lot! We'll work on it at this end as soon as Freggle's O.K.—method of approximation. Wait! Next, you write down everything . . . I mean, but every little thing . . . that's different between the early batch and these. Get it? Anything! Different process vat, new typewriter for addresses, every single thing—"

"He's eating the sugar!" Miss Boots wailed from the screen.

"Let him; But GET MORRIS! O.K., O.K. Old and new samples, list of differences, schnell, schnell. Right, Marple?"

The fat man collided at the door with a tall gazelle carrying an attaché case. From the screen Miss Boots could be heard squeaking into another communicator. The phone chimed.

Benedict, who had dropped his head momentarily into his hands, looked up, rolled one blue eye at the gazelle-like woman and flicked on the phone, which began hooting importantly. Benedict grunted into it, twiddling his fingers at his new visitor.

On the speaker screen, a gigantic green walrus form rose up, staring groggily. One of its flippers was around Miss Boots' neck.

"You O.K., Freggle?" asked Benedict. "Got the Doc? . . . No, not you, excuse me . . . go on."

The walrus wavered off, to be replaced by a shingle-headed man who made the "All Clear" sign to Benedict. Benedict nodded and switched off the speaker. His phone continued to hoot and moan. He grunted into it, pawing the air at the woman, who was breathing hard.

"All right," said Benedict at length. "Now check me if I've got this right: The Pansolar wine shipment can go through as routed provided (a) they take the grape picture off so those fructose types on the Fomalhaut transfer won't think we're bottling their relatives; and (b) the bottles don't gurgle with overtones above high C to avoid the mating range for that bunch of frogs running Pegasus Z-1. If the gurgle can't be fixed, he has to ship the long way, through Cephus sector. Right? . . . Right. Transcribed . . . Will notify. Thanks a lot . . . Meemeeo . . . Yes, Madam?"

"I am Joanna Lovebody, Inc."

"How do, Miss, ah . . . Inc?"

"Well, Miss Krupp, actually," she smiled intimately. "We at Joanna Lovebody are so thrilled, because we now have our first outplanet market! Yes, there is a new, enthusiastic market for Joanna Lovebody Cremes on a distant world. And we understand, Mr. Benedict, that in order to ship our Joanna Lovebody Cremes to these people, we need one of your little stickers?"

"You do indeed, Miss Krupp. Now tell me, where is this place you're shipping to?"

"Sirloin Twelve," she murmured,

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with a gentle wiggle which ran down to her slim silvered toes.

"Some survey crew got tired of tube food," Benedict muttered, riffling his Locater. "Aha! . . . Say, what do they do with face cream on Sirloin Twelve? Polish their chitin?"

"I beg your pardon? Oh . . . well, actually I believe they want to use it more as a cooking oil."

"Wonder what they cook? Well, this looks like a pretty easy route, Miss Krupp. Straight through the Sirius station, one transfer, right?"

"I believe so, Mr. Benedict. And I do hope we can get this little sticker in a hurry, because we have rather an early date on our order."

"We'll try. Now, what does your cream look like? Are you shipping more than one kind, or all the same? Does it gurgle, or rattle? How about odor? I imagine it's perfumed?"

"All just like this." She produced a gold and orchid vial from her attaché case.

"Hm-m-m. No gurgle, no rattle —quite a smell, though. You realize, Miss Kropp, that what might smell lovely to us often has very different —even harmful effects on alien life forms? I don't mean the Sirloin customers. Evidently they know the product. I mean the transmitter crews on the Sirius station. Do you have any kind of vaportight wrap for this?"

The speaker flashed on, revealing the front office nymphet with her eyelashes quivering.

"There are . . . uh . . . three thousand and seventeen little black boxes here, Mr. Benedict! From Mr. Marmon!"

"Right, Jones baby. It's O.K. Now you transcribe this for Jim and get it to him right away. Hear?

"Jim, we have a product variation problem with Candlepower, these Marmon samples. Gas somethings. Variation unknown. Some will be O.K., some not. Get them up to Freggle—but go real easy. Don't let Freggle faint. Start outside the door. Right? And Jim, make it quick, can you? Customer's hung up at station. We want something by fifteen hundred, can you?

"Excuse me, Miss Kropp."

"It so happens, Mr. Benedict, we do have a vapor wrap made for Joanna Lovebody Creme in travel kits. Those lovely space girls have to keep their beauty fresh, too, you know. Here is our wrapped cream."

"Never been off-planet . . . Say, that's great. If it's really vaportight . . . Miss Cameera!"

Another kitten toddled in.

"Sweetie, you take these two jars to our Sirius representative. You know, Mr. Splinx. Right?"

"Oh, Mr. Benedict, couldn't you send it up by the regular tube?"

"Splinx won't open his tube since we sent him those hamsters, you know that, Cameera sweetie. You'll be all right—but stand about eight feet away. Tell him we want a voice report as soon as he's satisfied, record later. Right?"

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Miss Cameera toddled out, slowly.

"New girl," said Benedict. "Now, what I had in mind, Miss Kripps, was one of our all-neutral shipping packs. As a public service, we've had some of the most-used sizes made up in a universally acceptable container. If your product can be shipped in this, it will save you time and money."

He pulled out a handful of padded, sacklike objects.

"What happened last time . . . I mean, to the girl?"

"Oh, nothing that would interest you, Miss Kripps, just a little administrative problem, different cultures, different ways. Take a look at this. If your cream checks out O.K. with Splinx, and you can use an approved pack, we could give you a provisional clearance today, on this one direct route, and you can ship tomorrow if you like. How's that?"

The phone chimed above Miss Krupp's husky thanks.

"Exceegeecee . . . What? . . . What? Oh, NO! Well, but that's not our skin, customer's in the clear. That's Galactic Transfer's problem . . . O.K., I'll tell our man. Sure, he can change them to be safe. But it's not his fault, is it? Right, I'll tell him now. What a mess! You just look those packs over, Miss Krimp, I'll be right with you. Jones! Get me Murgatroyd, Terran Dynamics, will you?"

His speaker screen was flashing with no image. "Splinx here," intoned a deep, melodious voice. "I cannot see you, Mr. Benedict."

"Something on your sender . . . Wait a minute. Hello, Murgatroyd? Benedict here. Listen, on that shipment of electrolifts, through Nutmeat Nine, you know that fiber plate you have on the back? Exposed through the crate, right? Well, could you cover that fiber with something neutral, for shipping? Yeah . . . It's not your problem, your product got through O.K., but it seems the boys on Nutmeat had some female workers standing around when your product came through, and there's some kind of electrostatic effect—maybe it's electrophoretic. I don't know these terms . . . anyway, it's very sexy for Nutmeat Nine females. Not the males—we cleared them, the girls' stomach plates are charged differently—anyway, they got in the crates, you know they're teensy, and your machines arrived on Icerock with scads of these little girl mice plastered all over them. Seems the Icerock crew are big herbivores and they got scared and stampeded, and Nutmeat is suing Galactic Transfer for white slavery and violation of the Mann Act, or something. Not your problem, absolutely not—those girls had no reason to be there. But I said we'd ask you if you could cover those plates, right? Right! Great! . . . Yes, Splinx?"

The Splinx screen was now clear, revealing a large, benevolent eye, in a high-domed octopoid head.

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"I would say O.K., Friend Benedict. Boot the wrapping is noot vapoortight. Noot at all. Hoowever, the fragrance is noot oonattractive. Rather like, ah, perchance an eel farm by moonlight?"

"Not too attractive, I hope. Pilferage?"

"Perchance—joost a little. Boot the woorkers will soorely not be so chemosensitive as I." He preened himself with a tentacle-tip.

"Right, thanks, Splinx. Well, there you are, Miss Kroup. Splinx thinks they'll pass—but I warn you, if he says there may be pilferage, there *will* be pilferage. That big squid thinks he's special because he's an aristocrat, but we find no differences. So I've warned you: Insure! And get a better wrapper. Now, are you sure you've told me everything? This sample is like all the rest? There's no other effect it might have?"

Miss Krupp joined Benedict in a thoughtful contemplation of her peekaboo tights.

"No, Mr. Benedict, that's our standard Joanna Lovebody Creme."

"Right. Well, here's your provisional clearance, signed. Take it out to Miss Jones. I've marked the pilferage warning. Right? And I want to thank you for your cooperation, Miss Kroup, I certainly wish all our clients were as gracious."

The phone broke into their handclasp.

"Benedict . . . Oh, hello, Mr. Miller . . . Well, look, I've certainly appreciated the offer Montgomery Roebuck made me, but, as I told you, I think my job is here. No, it isn't really the money . . . Of course that's a lot more than the government pays me . . . Yeah, the work sounds very attractive, Outplanet Sales Coordinator sounds great. It's just that I've been building up this department here and it's hard to quit. I'm sure you'll find somebody else . . . Oh, sure, if I change my mind . . . Well, thanks a lot, Mr. Miller, yeah, same to you. 'Bye."

The screen had flashed to show a man in a lab coat.

"How're you coming with Freggle and those gas gizmos, Jim?"

"Just wanted to tell you, T.B., we've run through a couple of hunderd of Marmon's samples, and we're not getting just two types. More like five. Neutral, acutely noxious, mildly euphoric, soporific, and something else he can't or won't describe. Funny thing is, I think I get a little of it myself. Does that remind you of anything?"

"Hm-m-m. Well, I suppose it's possible. Keep at it—skip the staff meeting. Thanks a lot, Jim."

"Oh, by the way, Freggle wants to register a complaint about the chow. Those last sturgeons were below par, he says, and the seaweed sauce stinks. He likes the Russian stuff better. Can we get him some?"

"He would, twice as expensive. Well, we'll see. It's spring now, may-

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be we can get local salad for those Vegan rabbits, and use the savings for Freggle. But give him a pep talk: Keep the galaxy spinning; . . . where would Candlepower be without the transmitter? . . . Hey, what happened to your clothes? . . . Not you, Jim, 'scuse me."

Miss Cameera had burst in through a side door, clutching the two cold-cream jars.

"That awful Mr. Splinx, he got my kiltie!"

"*Tch, tch* . . . Well, but Cameera sweetie, cheer up, it's not sex with Splinx—at least, Morris says it's not. Sometimes I wonder. Now, look, you can't run around like that. Couldn't you get your skirtie—I mean, your skirt?"

"He threw it over the speaker set and I couldn't go close!"

"I see. That figures. Well, get Jim to get it for you—he's on the floor."

"Oh, Mr. Benedict, I couldn't talk to Mr. Eisenstein like this!"

"Huh? Oh, so. Is Jim a married man? No, he's not. Here, take my lab coat. You'll wow him—but get out now, Cameera baby, I'm busy, see? And wait! On your way back get me another batch of standard small shipping packs from Supply, right? Small, right!"

Two men and a woman, all in lab coats and carrying recorders, had come into the office. Benedict waved at them, shouting, "Jones baby, get me a sandwich and coffee, will you? You folks eaten? Oh, any kind, it's all roast cardboard. Thanks . . . Hal, you look like trouble. Shoot."

"Well, Mr. Benedict, I want to make sure you're briefed for that meeting with the Budget Bureau tomorrow. I'm afraid they're quite serious about a twenty percent cut on our alien panel."

"Gautama B. Buddha, how do they expect us to function without a full panel? What're we supposed to do for the public, *guess?* You know we only have a sixty percent coverage of current transfer-point life forms as it is—Sorry, Hal, it's not your fault. What should I do?"

"Well, the inside story I get from Timmons over there is that they're getting pressure from this anti-alien organization. They keep yelling about hundreds of monsters being maintained in luxury at the taxpayer's expense. Seems somebody got hold of a food bill with caviar on it."

"That'd be Freggle. What do I do?"

"Well, I have prepared two alternate proposals, which on the surface comply with their reduction. I won't go into them now, except that one complies money-wise, by adjusting the budget to get past the current fiscal year—and after the elections, who can tell? The other complies by reduction of permanent personnel . . . wait, Mr. Benedict . . . but by retaining them in various temporary consultative capacities, and considering

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contract expiration dates, we can avoid an actual loss of any panel members at least for the time being. I'll be in to go over them with you in detail in the morning."

"Hal, you're a genius."

"Meanwhile, I think we ought to engage in a little counter-pressure. Perhaps we could get a group of Terran shippers to endorse our service? But that's not my department."

"Ticklish, trying to solicit public support from inside the government . . . Well, maybe, maybe. Chester, will you see what you could feel out?"

"Sure will. T.B., I just want to tell you the annual reports are going to be a couple of days late again."

"Again?"

"The transcriber foul-up we had last month hurt. We've been working overtime to reconstruct, but that blackout hurt. A lot of records were miskeyed. Frankly, T.B., the main trouble is right here in your office. If only you could transcribe live a little more. We've keyed your bank in every way we can. If we could just catch the original record. I know you're rushed, and you don't like the machines . . . By the way, it doesn't seem to be transcribing now."

Benedict wheeled to his equipment bank, gave it a glare, and slammed the switch to On.

"Dammit, how can I talk to human beings with that thing going? . . . OK., I'll try. I'll try. Mavis, any woe from you?"

"Not really, T.B., just the usual. Two cases of nostalgic apathy, one case of addiction to Lunar lichens, and some sort of psychic disturbance Dr. Morris hasn't been able to pin down yet with the Altairean. Dr. Morris says to tell you if you have to use Altair, call him first."

"Is he still able to function? Altair is getting new branch lines, we're bound to need him."

"He's all right, Dr. Morris says, but he has to get him in the mood first."

"How does he get him in the mood?"

"With movies. Old Westerns. The horses seem to perk him up. Only thing is, there mustn't be anything disturbing happen to a horse. Dr. Morris has been previewing them nights, he says he has saddle burns."

"Give him my love . . . here, tell him I have some Joanna Lovebody Creme for his burns. And listen, ask Morris what he can do about Splinx and this undressing business, will you? He got Cameera's skirt today. . . . That all, everybody? Thanks a lot."

"Don't forget you're speaking to that Alien Nutrition meeting tonight right after work, Boss," Miss Jones called through the open door as they trooped out. The phone chimed.

"Exceegeecee . . . Oh, Hello, Marmon. Got that list of differ-

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ences? . . . Nothing but a turret lathe, eh? Used on them all? . . . Well, that shouldn't do it. Now tell me, have you figured personnel changes? . . . What? Look, Marmot, I said *everything*. Don't you count people as anything! . . . People! They handle the product, don't they? People! . . . Well, I can't help your records . . . Are the people the same? . . . Well, try to look . . . Yes, I have reasons. My reasons aren't definite, but they're good enough so you better look. I'll call you back in about an hour and maybe I can give you a better idea what to look for. But get those records so you can make sense when I call. Right?"

He flicked the phone. In the momentary silence the transcriber bank hummed officiously. Benedict gave it a mean look, slammed the switch, and rested his head in his hands. The phone chimed.

"Exceegeecee . . . Yes. Hello Mr. Tomlinson. Sure I remember you, you ship those miniclimatrons way out past the Hub. Fifteen transfer points—indeed, I remember you, Mr. Tomlinson. Most complicated clearance we had in months. What's the problem? . . . You've found a cheaper shipping route? I see—yes, you certainly do need a new clearance. How many transfer points this time—thirteen? . . . That new Lost & Gone station? . . . Yeah, we do have to clear your product for those life forms there—my problem is that we haven't been allocated a panel member for Lost & Gone yet. I believe they're pretty gone, too, some kind of energy-matrix. No telling what your unit would do to them —or they to it . . . Yeah, I realize you're losing money every time you ship by the old route, but Mr. Thomason, the public hasn't given us the money to bring a native from there yet. Tell you what you can do, if you don't want to wait: The best thing is a government test trial shipment—at your expense. . . . Yeah, I'm sorry. We monitor the shipment and testing procedure. We'll need a representative—I mean, absolutely typical sample of your product . . . We went over that before, Mr. Thomason . . . No changes? . . . Oh, a little change. You didn't notify us. You've been taking a chance, Mr. Thompkinson . . . Well, we'll catch it now, but that means a recheck of the whole route . . . Yeah, we'll send you a cost sheet on the trial shipment to Lost & Gone tomorrow, say for ten units? If it goes through, yes, you can route them on to consumer, but we don't guarantee they'll go through. You could easily have trouble with the circuits, with those energy-beings—probably need some nonconductive pack . . . You wouldn't want to work out a pack first, would you? . . . I see. Well, it's your risk, Mr. Tinkerson, I've warned you. W'ere not responsible for loss or damage, that's on record now. But we'll do

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everything we can . . . Sorry you feel that way. Right."

As he flipped off, Benedict glanced at the dead transcriber bank, blew through his button nose, and banged it into the On position.

Jim came to the speaker screen, holding one of Marmon's black boxes.

"T.B., I think we've got a series. Freggle got cooperative and we've pinned down the unknown and two more. Working with the serial numbers as chronology, sample of five hundred, it adds up thusly: Neutral; mild euphoria, type A; boredom; mild euphoria, type B; intense sex interest; intense dejection; intense homesickness. The last two types were what really threw Freggle, but the sex one is no better—he won't touch it, just giggles. The homesickness type carries right through to the last number we tested . . . Identification? Not too good. Probably young, maybe female by a slight edge. Earliest number—that's the neutral—AGB-4367-L2.

"Thanks Jim, thanks. That really helps . . . Jones! Baby! Get me Marmot, I mean, Marmon . . . Mr. Marmon. Benedict here. Got those lists? I think we've found your trouble. First, though, can you place the date of manufacture of a unit from its serial number? Well, roughly will help. Now. What you have to look for is a new employee, out of town—maybe foreign—hired about the time that, let's see, AGB-4367-L2 went through. Got it? . . . This employee maybe female, less probably male, likely is young. At first she—or he—was happy and interested, then bored, that's normal. Then she—or he—fell wildly in love, right? Mr. Marmot, I'm not kidding . . . Wait, let me finish. Anyway, this employee got rejected, see? Off-chance the loved one died or moved away, but chances are they rejected your employee. Employee goes into a deep depression, almost suicidal, then starts violently longing for home. Got it? . . . Why? Mr. Marmon, where have you been? You've hired a transmitting telepath, Mr. Marmon, and this telepath is using your product as a K-object . . . No, never mind that—the net effect is that every unit you process is impregnated with this emotional transmission, see? Any life form that receives picks it up, see? That's what knocked over the Candlepower crews, get it? This stuff carries a big jolt, you've got a strong sender somewhere in the works who's very, very unhappy. Probably young, doesn't know what they're doing. Comes from some place where there's no testing station . . . How do you find her or him? . . . Well, one small clue—it's evidently someone who handles every one of your products, at least the batch you gave me . . . Do? Well, get hold of them and send them over to the Para-P Bureau. They're wasted with you, for Pete's sake . . .

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Well, if they don't want to go, and they have a contract, either get them fixed up, love-wise, or keep them away from the product—and I mean *far* away. But I think you'll find they'll gladly shift to Para-P when they find out; better pay. Matter of fact, you call Para-P, talk to Ilyitch there. Tell him Benedict says you have a strong sender. They'll help you. Right? . . . I-l-y-i-t-c-h . . . Well, I can't help you with that pile-up on Candlepower, Mr. Marmot. I told you, best thing is to get an itinerant crew down there to move it. Nonsensitives . . . Well, I warned you that was the best course. Yeah, I know. I'm sorry, too. We try. Right?"

Benedict dropped his chin to his fist, scowling at the humming transcriber bank. Outside, the sky darkened. Quitting time, and he had that speech to make. The phone chimed. Benedict answered.

"How do, Mr. Oldmayer . . . Well, didn't my office send you the forms? It's simple, really, you just send the forms back with your sample packs and we check them through our alien panel according to your routing . . . What special problem? . . . Yes, I'm afraid you do have to have a clearance, Mr. Oldenham, music is one of our more sensitive shipping problems. You get actual damage with some life forms. It's a question of packaging . . . I realize it's turned off, but you'd be surprised how things get accidentally activated in transit, especially with a long route like that . . . Yeah, well, get hold of a good soundproofing firm and have them work out a muffler. Maybe you don't have to do the whole box, just the audio part, right? And the power pickup, nonconductive, right? . . . I know it's a nuisance, Mr. Oldershot, but that type of equipment can start picking up and sending suddenly and then there's hell to pay. Conditions in transmission are for from earth-normal, you know. We had a case where a beam-powered front-end-loader started operating spontaneously in the transit station of Piccolo Two, and they had to close the station for two years . . . Yeah . . . Well, you get the wrap designed and we'll be expecting you, right? 'Bye.

"Yes, Miss Boots . . . what's in that dumpcart?"

"Mr. Benedict, what'll I do with these three thousand something from Mr. Marmon Jim was using?"

"Well, you can't leave them here. Take them to supply and ring Marmon and get them picked up. Stars, do I have to handle everything for that man? . . . No, it's too late. Call him tomorrow, Bootsie. I've got to go make a speech. You look beat—had a job with that stuff with Freggle, right? We're all beat, Bootsie, it's after time . . . Did Cameera get her skirt? Turn off the lights and let's go . . . Holy entropy, what's THAT?"

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In the darkened room, the strains of "Naked You" were welling out, to be joined a moment later by "Can You Forget Me?"

"Lights! What in Chaos . . . Bootsie! Somebody! Lights!"

"Oh, Mr. Benedict—it's just the cold cream! The face cream, Mr. Benedict, see? It plays music. I use it. It's just like mine only mine plays 'Yummy Yummy You.' It plays when the light goes on in the morning and when it goes off at night, to remind you to use it . . . A lot of them do it. My toothpaste sings 'Spring Kiss.' What's the matter, Mr. Benedict?"

"Get that woman—Kripps, Kropps, Krepps—get her on the phone . . . No, she's left . . . Bootsie, find her home phone . . . Switch it to my car . . . Tell her that permit is revoked, canceled, VOID . . . I don't care where she is, find her. Tell her somehow. Without fail . . . Oh, sweet Kharma, why didn't she tell me the thing plays music? I asked her . . ."

"But, Mr. Benedict, I guess she thought you knew. I mean, they all do it, it's old—"

"How would I know, me a bachelor? Bootsie, do you understand, those thousands of packages come tumbling out of the transmitter, all starting to PLAY—DIFFERENT—TUNES? On Sirius, yet? Oh, Oh my great green orcs . . . Bootsie!"

"Yes, sir?"

"Tomorrow, first thing—I mean, after Miss Krudd—get hold of a man named Miller at Montgomery Roebuck, will you? Something chief of Something Sales. Fix me up a lunch date with him, will you? Tell him I want to take him to lunch, Bootsie . . . Right now. I'd really like to have lunch with him . . ."

Benedict stalked from the office, switching off the lights. Behind him the two jars of face cream started to sing. The transcriber hummed efficiently. ■

the analytical laboratory DECEMBER 1967

PLACE	TITLE	AUTHOR	POINTS
1. . .	Dragonrider	*Anne McCaffrey*	1.63
2. . .	Psi Assassin	*Mack Reynolds*	3.18
3. . .	Whosawhatsa?	*Jack Wodhams*	3.35
4. . .	A Question of Attitude	*Christopher Anvil*	3.53
5. . .	Beak By Beak	*Piers Anthony*	4.03
6. . .	The Destiny of Milton Gomrath	*Alexei Panshin*	4.89

THE EDITOR

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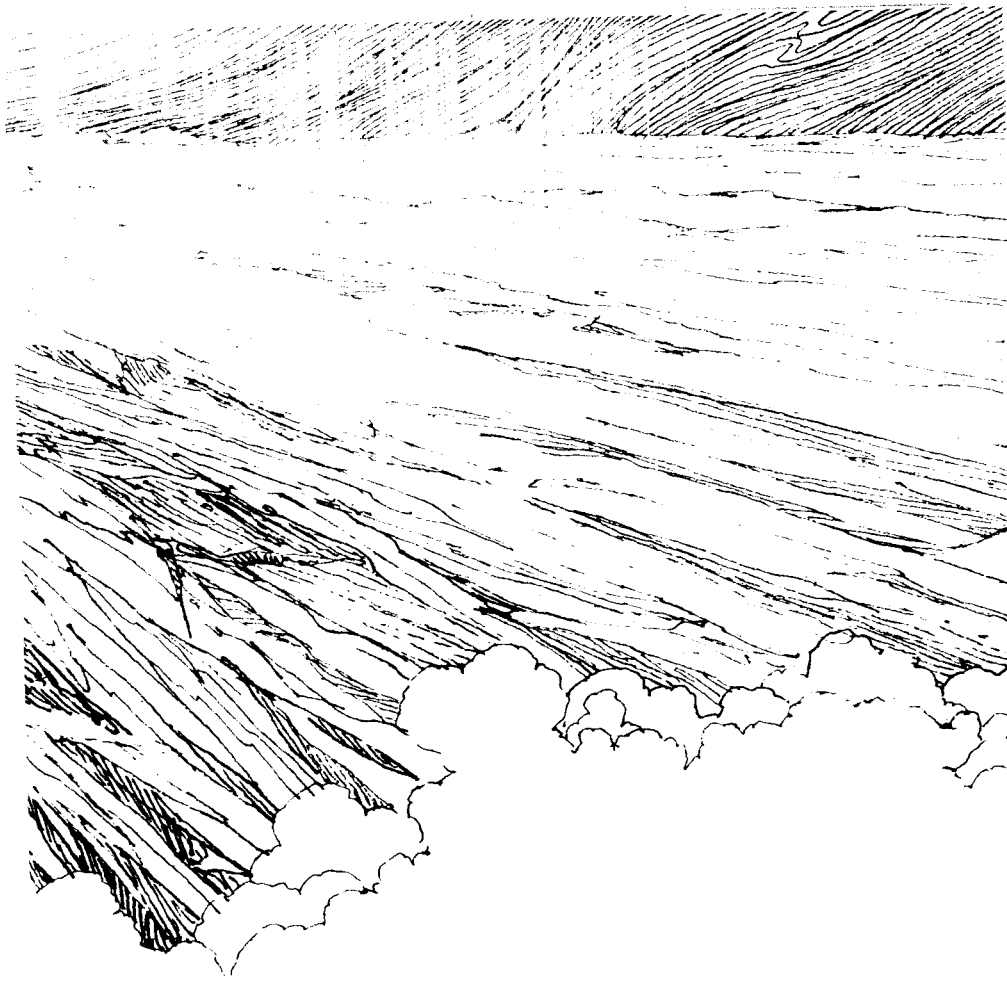

the horse barbarians

Second of Three Parts.
The true barbarian is not stupid, and not merely ignorant—he's determined not to learn. And he's smart enough to learn how to make his ignorance unshakable!

HARRY HARRISON

Illustrated by Kelly Freas

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SYNOPSIS

JASON DIN ALT knows that the city dwellers on Pyrrus are doomed if they do not leave their planet. Their continuing hatred has generated an endless—and escalating—war with the telepathic life forms that inhabit this world. The Pyrrans, after centuries of battling for their lives in the doubled gravity, are undoubtedly the galaxy's fastest and best warriors. JASON convinces them that they should try to open a mining colony on the planet FELICITY, despite the deadly and barbaric nomads who rule there now. A small expedition is mounted, but JASON is kidnapped by the nomads as soon as the spaceship lands. He is taken to TEMUCHIN, warlord of all the nomads, who interviews him briefly—then orders him killed.

JASON manages to escape and returns to the landing site, but finds the spaceship gone. He is attacked by nomads, but is saved by META in the ship's launch. She takes him to the mountains where the spaceship and the other Pyrrans are hidden. JASON now has a plan to gain control of this high plateau where they must dig mines.

The Pyrrans will disguise themselves as another tribe of nomads and, led by KERK, they will beat the tribesmen at their own game. They will be better barbarians, better warriors—and KERK will eventually take over TEMUCHIN's position as warlord. While they are doing this RHES will go to the lowlands, below the continent-wide cliff that separates the nomads from the more civilized cultures, and will organize a trading expedition. When KERK has gained control, the trading expedition will board ship and land on the northern coast. They will be permitted to land and will start a settlement, that will eventually cover the mining operations.

JASON goes to the plains ahead of the others, with META and the boy GRIF. He is disguised as a jongleur, a minstrel who travels from tribe to tribe with entertainment and news. TEMUCHIN hears about him and the Pyrran tribe, and orders the disguised JASON before him. After a first clash of personalities they reach an agreement. Then TEMUCHIN asks JASON how much he knows about gunpowder. What does this mean? What can TEMUCHIN, an illiterate, iron-age barbarian, know about gunpowder? Does he suspect that Jason is an off-worlder? Is it a trap?

Part 2

IX

Meta made no protest as Jason washed the dirt from her cuts and sprayed them with dermafoam. The medikit had sewn fourteen stitches into the cut on her skull, but he had done this while she was still unconscious and had covered the shaved

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area with a bandage. She had come to right after this, but had not moved or complained when he had put two more stitches in her split upper lip.

Grif breathed a hoarse snore from the mound of furs where Jason had placed him. The boy's wounds were mostly superficial and the medikit had advised sedation, which suggestion Jason had complied with.

"It's all over now," Jason said. "You had better get some rest."

"There were too many of them," Meta said, "but we did the best we could. Let me have a mirror. They surprised me, going for the boy first, but it was a wise plan. He went down at once. Then they came at me and I could not talk to you any more." She took the polished steel mirror from Jason, had one brief glance and handed it back. "I look terrible. It must have been a quick fight. I don't remember too clearly. Some of them had clubs, the women, and they tried to hit my legs. I know I killed at least three or four, one of the women, before I went down. What happened then?"

Jason took the *achadh* skin and worked the hidden valve on the mouthpiece that sealed off the fermented milk and opened the reservoir of spiced alcohol that the Pyrrans favored.

"Drink?" he asked, but she shook her head no. He joined himself and had a long one. "Skipping the finer detail for the moment, I managed to send some of the troopers after you. They brought back both of you, and a few rat survivors—all of whom are now dead. I killed the unwounded one myself in true Pyrran-vengeance fashion, for which I do not feel too ashamed. But I had to give my knife to Temuchin who instantly spotted the advanced level of technology. I'm very glad now that I hand-forged it and that the tool marks can still be seen. Right away he asked me if we Pyrrans knew anything about gunpowder, which rocked me. I played it slippery, told him I knew nothing —just the name—but perhaps others in the tribe knew more. He bought that for the time being—I think. You just can't tell with that guy. But he wants us to move in. At dawn we have to truck our *camach* into the camp next to his, and say good-bye to Shanin and his rats, whom we shall not miss. And in case we should change our minds there is a squad of Temuchin's boys waiting outside. I still haven't decided whether we are prisoners or not."

"I know I look terrible this way," she said, her head nodding.

"You'll always look good to me," Jason told her cheeringly, then realized that he meant it. He twisted the medikit to *full sedation* and pressed it to her arm. She did not protest. With more than a small amount of guilt, and the feeling that he alone was responsible for their danger and pain, Jason laid

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her down on the furs next to the boy and covered them both. What bit of insane stupidity was it that had permitted him to involve a woman and a child in this murderous business? Then he remembered that conditions here were still far better than they were on Pyrrus, and he had probably saved their lives by getting them away. He looked at their bruises and shuddered, and wondered if they would thank him for it.

In the morning the two wounded Pyrrans had just enough strength to stumble out of the *camach* so that Jason could supervise its dismantling by the soldiers. They grumbled about woman's work, but Jason would allow none of Shanin's tribespeople near any of his belongings. After all the recent deaths he was sure that his feud had widened its boundaries until it took in a good portion of the tribe. It was only after Jason had lubricated their spirits with a large skin of high-proof *achadh* that the soldiers buckled down to finish the job and to load the *escung*. Jason strapped Meta and Grif in under the furs, in much the same way that he had been carried after his capture, and the small caravan set out. Hurried on its way by many dark looks.

In Temuchin's own camp there were enough females who could be drafted for the degrading labor so that the men could stand and watch, which was their normal contribution. Jason could not stay to supervise, he left this to Meta, because a message arrived demanding his instant appearance before Temuchin.

The two guards at the entrance to the warlord's *camach* stood aside when Jason approached. At least he had some prestige among the enlisted men. Temuchin was alone, holding Jason's knife which was drenched with blood. Jason stopped, then relaxed when Temuchin seized the point and, with a quick snap of his wrist, sent it whistling through the air to sink deep into the carcass of a goat that he was using for a target.

"This knife has good balance," Temuchin said. "Throws well."

Jason nodded silently since he knew that he had not been summoned to an audience just to hear that.

"Tell me all you know about gunpowder," Temuchin said, bending over to retrieve the knife.

"There is very little to tell . . ."

Temuchin straightened and his eyes caught Jason's, as he tapped the hilt of the knife against the calloused palm of his hand. "Tell me everything you know. Instantly. If you had gunpowder, could you make it blow up with the big noise instead of burning with smoke?"

This was the clinch. If Temuchin thought that he were lying that big knife would sink into his gut as easily as it went into the goat's. The warlord had some very specific

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ideas about the physical nature of gunpowder, so he was not bluffing. Time to take a chance.

"Though I have never seen gunpowder, I know what is said about it. I have heard how to make it explode."

"I thought you might." The knife thunked as it sank deep into the goat's flesh. "I think you know other things that you are not telling me."

"Men have secrets that they swear never to reveal. But Temuchin is my master and I will help him in every way that I can."

"Good. Don't forget that. Now tell me what you know about the people in the lowlands."

"Why—nothing," Jason said, astonished. The question had come as a complete surprise.

"You and everyone else. That is changing now. I know some things about the lowlanders and I am going to learn more. I am going to raid the lowlands and you are coming with me. I can use some of this gunpowder. Prepare yourself. We leave at midday. You are the only one who knows it is not a simple hunting expedition, so talk of the matter only at the risk of your life."

"I would rather die than speak a word of this to anyone."

Jason returned to his *camach*, deep in thought, and instantly told Meta everything he had just learned.

"This sounds very strange," she said, hobbling to the fire, her muscles stiffened by the beating she had undergone. "I am hungry and cannot make this fire burn."

Jason fanned the fire, and coughed and averted his head when he caught a lungful of pungent smoke. "I don't think you are using first-rate *morope* chips here. They have to be well dried to burn evenly. It sounded strange to me, too. How can he get down a vertical cliff over ten kilometers high? Yet he knows about gunpowder, and he certainly never found out about that here on the plateau." He coughed again then kicked sand over the fire. "Enough of that. You and Grif need something more nutritious than goat stew in any case. I'll crack out a couple of meal packs."

Meta picked up a war ax and stood by the entrance to make sure that Jason was not disturbed when he opened the lockbox. He took out the meal packs and unsealed them, then pointed to the radio.

"Report to Kerk at midnight, let him know everything that is happening. You should be safe enough here, but if it looks like there will be any difficulty tell him to pull you out."

"No. We will stay here until you return." She plunged her spoon into the food and ate hungrily. Grif took the other pack and Jason stood guard at the entrance.

"Put the empty cans into the lockbox until we find a safer spot to bury them. I wish there was more I could do . . ."

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"Don't worry about us. We know how to take care of ourselves," Meta told him firmly.

"Yes," Grif agreed, unsmiling. "This planet is very soft after Pyrrus. Only the food is bad."

Jason looked at them both, battered yet undefeated, opened his mouth—then closed it because there was really nothing that he could say. He packed a leathern bag with the supplies he might need for the trip, extra clothing, and a microminiaturized transceiver that slipped into the hollow handle of his war ax. This, and a short sword, were his only weapons. He had tried using the laminated horn bows, but he was so improficient that he was better off not having one of the things around. Slinging a shield from his left arm he waved good-bye and left.

When Jason rode up on his *morope* he saw that a small force of less than fifty men had assembled for the expedition. They carried no extra equipment or supplies and it was obvious that it would not be a prolonged trip. Only after Jason had intercepted a number of cold glances did he realize that he was the only outsider there. All the others were either high-ranking officers and close associates of Temuchin, or members of his own tribe.

"I can keep secrets, too," Jason told Ahankk who rode close, scowling, but he only received a fine selection of grating curses in return. As soon as the warlord appeared they rode off in a double column, following his lead.

It was hard riding and Jason was thankful for the weeks he had spent in the saddle. At first they started towards the foothills to the east, but as soon as they were hidden from sight of the camp, and sure that they were not observed by stragglers, they turned and moved south at a ground-eating pace. The mountains rose up on all sides of them as they rode from valley to valley, climbing steadily. Jason, breathing through his fur neckpiece, could not believe that throat-hurting air could be so cold, yet it did not seem to bother anyone else.

They grabbed a quick, unheated meal at sunset, then kept on going. Jason could see the sense in this; he had almost frozen to the ground during their brief halt. They were in single file now. The trail was so narrow that Jason, like many of the others, dismounted to lead his mount, in an attempt to warm himself above the congealing point with the exertion. The cold light of the star-filled sky lit their way.

Coming to a junction of two valleys Jason looked to his right, at the gray sea spreading out in the distance beyond the nearly vertical cliffs. Sea? He stopped so suddenly that his *morope* trod on his heels and he had to jump aside to avoid being trampled.

No, it couldn't be the sea, they were in the middle of the continent

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—and too high up. Realization came late—he was looking at a sea rightly enough, the top of a sea of clouds. Jason watched until a turn in the trail took them from sight. The trail was dipping downwards now as he knew it must. He halted his *morope* so that he could climb back into the saddle. Somewhere up ahead was the edge of the world.

Here the domain of the nomads ended at the continent-spanning cliff, a solid wall of rock reaching up from the plains below. Here, also, was where the weather ended. The warm southern winds blowing north struck the cliff, were forced upwards and condensed as clouds, to then bring their burden of water back to the land below as rain. Jason wondered if they ever saw the sun at all this close to the escarpment. A glistening dusting of snow in the hollows showed that severe storms even pushed over the top of this natural barrier.

As the trail dropped it passed through a narrow pass and, once inside, Jason saw a stone hut under an overhang of rock, where guards stood and stoically watched them pass. Whatever their destination was, it must be close. A short while later they halted and word was passed back to Jason to wait on Temuchin. He shuffled to the head of the procession as fast as his numbed muscles would permit.

Temuchin was chewing steadily on a resistant piece of dried meat, and Jason had to wait until he had washed this morsel down with some of the half frozen *achadh*. The sky was lightening in the east and by the traditional nomad test it was almost dawn, the moment when a black goat's hair could be told from a white.

"Bring my *morope*," Temuchin commanded as he strode away. Jason grabbed the reins of the tired, snapping beast, and dragged it after the warlord. Three officers followed after him. The trail took two more sharp turnings and opened out onto a broad ledge, the farther side of which was the sheer edge of the cliff. Temuchin walked over and stared down at white-massed clouds not far below. But it was the rusty chunk of machinery that fascinated Jason.

The most impressive part was the massive A frame that was seated deep into the living rock at the cliff's edge, projecting outwards and overhanging the abyss below. This had been hand-forged, all eight meters of its length, and what a prodigious labor that must have been. It was stabilized with cross-brace rods and rested against a ridge of rock at the lip of the drop, that raised it to a forty-five degree angle. The entire frame was pitted and scratched with rust although some attempt had been made to keep it greased. A length of flexible, black material led over a pulley wheel at the point of the A and back through a hole in a buttress of

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rock behind. Obsessed now by curiosity, Jason went around the rock to admire the device behind it.

In its own way, this engine, though smaller, was more spectacular than the supporting frame on the cliff. The black, ropelike material came through the hole and wound around a drum. This drum, on an arm-thick shaft, was held to the back of the vertical rock face by four sturdy legs. It could obviously take an immense strain since there was nothing to uproot: all of the pressure would be carried directly to the rock face, seating the legs even more firmly. A meter-wide gear wheel, fitted to the end of the drum, meshed with a smaller pinion gear that could be turned by a long crank handle. This was apparently made of wood, but Jason did not draw attention to the fact. A number of pawls and ratchets made sure that nothing could slip.

It did not take a mechanical genius to understand what the device was for. Jason turned to Temuchin, forcefully controlling the tendency for one eyebrow to lift, and said: "Is this the mechanism by which we are supposed to descend to the lowlands?"

The warlord seemed about as impressed by the machine as Jason was himself.

"It is. It does not appear to be the sort of thing one would usually risk one's life with, but we have no choice. The tribe which built and operated it, a branch of the stoat clan, have sworn that they used it often to raid the lowlands. They told many tales, and had wood and gunpowder to prove it. The survivors are here and they will operate the thing. They will be killed if there is any trouble. We will go first."

"That won't help us very much if something goes wrong."

"Man is born to die. Life consists only of a daily putting off of the inevitable."

Jason had no answer to this one. He looked up as, with pained cries, a group of men and squat women were driven down the hill towards the winch.

"Stand back and let them do their work," Temuchin ordered, and the soldiers instantly withdrew. "Watch them closely and if there is treachery, or mistakes, kill them at once."

Thus encouraged, the stoat clansmen turned to their jobs. They appeared to know what they were doing. Some turned the handle while others adjusted the clanking pawls. One man even pulled himself out on the frame, far over the cliff's edge, to grease the pulley wheel on its end.

"I will go first," Temuchin said, slinging a heavy leather harness around his body under his arms.

"I hope that rope-thing is long enough," Jason said, and instantly regretted it when Temuchin turned to glare at him.

"You will come next, after you have sent down my *morope*. See

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that it is blindfolded so it does not panic. Then you, then another *morope*, in that order. The *moropes* will be brought to the cliff only one at a time so they do not see what is happening to the others." He turned to the officers. "You have heard my orders."

Chanting in unison, the stoats turned the handle to wind the rope onto the drum, the pawls slowly clanking over. The pressure came on the harness but the rope stretched and thinned before Temuchin was lifted from the ground. Then his toes swung clear and he grabbed the rope as he swung out over the abyss, oscillating slowly up and down. When the bobbing had damped the operators reversed the motion and he slowly dropped from sight. Jason went to the lip and saw the warlord's figure get smaller and finally vanish into the woolly clouds below. A piece of rock broke loose under the pressure of Jason's toe and he stepped backwards quickly.

Every hundred meters, more or less, the men slowed and worked cautiously as a blob appeared where two sections of the elastic rope were joined together. They turned the handle carefully until the knot had cleared the pulley, then went back to their normal operating speed. Men changed positions on the cranks without stopping so that the rope moved out and down continuously.

"What is this rope?" Jason asked one of the stoats who seemed to be supervising the operation, a greasy-haired individual whose only tooth appeared to be a yellowed fang that projected above his upper lip.

"Plant things, growing things . . . long with leaves. What you call them *mentri* . . ."

"Vines?" Jason guessed.

"Yah, vines. Big, hard to find. Grow down the cliff. Stretch and very strong."

"They had better be," Jason said, then pointed and grabbed the man as the vine rope suddenly began to bounce up and down. He wriggled in Jason's numbing grip and hurried to explain.

"All right, good, that means the man is down, let the vine go, it bounces up and down. Bring up!" he added, shouting at the crank operators.

Jason loosened his grip on the man who moved quickly away rubbing the injured spot. It made sense; when Temuchin had let go of the rope his released weight would have caused it to oscillate. Though not too much, his weight was surely only a small part of the overall weight of that massive length of cable.

"The *morope* next," Jason ordered when the hook and sling were finally hauled up the cliff top once more. The beast was led forwards, blinking its red little eyes suspiciously at the brink ahead. The stoats efficiently fitted a broad harness about its body, then covered its eyes with a leather sack pulled down

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tight and tied under its jaw. After the hook had been attached the *morope* stood patiently until it began to feel its weight coming off the ground. Then, panic stricken, it began to struggle, its claws raking grooves in the dirt and cracking chips from the stone. But the operators had experience with this as well. The man, whom Jason had been talking to, ran up with a long-handled sledge hammer and, with a practiced swing, hit a mark on the bag, which must have been right above the creature's eyes. The breath whooshed from its lungs and it went instantly limp. With much shouting and heaving the dead weight was swung clear of the ground and started over the edge.

"Hit just right," the man said. "Too hard, kill it. Not hard enough it wake up soon and jump around, break rope."

"Well hit," Jason said, and hoped that Temuchin was not standing directly below.

Nothing appeared to be wrong and the rope vine clanked out, endlessly. Jason found himself dozing off and stepped farther back from the edge. Suddenly there were shouts and he opened his eyes to see the rope jerking back and forth, heaving with great bounces. It even jumped from the pulley and one of the men had to reseat it.

"Did it break?" Jason asked the nearest operator.

"No, good, all fine. Just bounce big when the *morope* come off."

This was understandable. When the greater weight of the large beast was removed the elastic vine would do a great deal of heaving about. The motion had damped and they were bringing it up now. Jason realized that he was next and was aware of a definite dropping sensation in his stomach. He would have given a great deal not to suffer a descent on this iron-age elevator.

The beginning alone was bad enough. He realized that his feet were dragging free of the rock as the tension came on the vine and he automatically scratched with his toes, trying to stay on the solid mountain top. He did not succeed. The wheel turned another clank and he was airborne, swinging free, out from the cliff and above the cloud-bottomed drop. He took one look down between his twirling feet then riveted his attention straight ahead. The cliff top slowly rose above his head and the grim-faced nomads vanished from sight. He tried to think of something funny to say but, for once, was completely out of humorous ideas. Rotating slowly as he dropped he could, for the first time, see the continent-spanning cliff sweeping away on both sides, and could appreciate the incredible vastness of it. The air was clear and dry with the early morning sun lighting up the rock face so that every detail could be plainly seen.

Below was the white sea of the

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clouds, washing and breaking against the base of the continent-wide cliff. The jagged, gray mountains that could be seen rising behind it, were dwarfed by comparison. Against the immensity of this cliff, Jason felt like a spider on a thread, drifting down an endless wall, moving yet seemingly suspended forever at the same spot, because the scale was so large. As he rotated he looked first right, then left, and in each direction the grained escarpment ran straight to the horizon, still erect and sky-touching where it dimmed and vanished.

Jason could see now that the point on the cliff above, where the winch had been placed, was much lower than the rest of the stone barrier. He assumed that there was a matching rise in the ground below, for at any other spot along the cliff the length of the vine rope would not have been strong enough to support its own weight, exclusive of any added burden. The clouds rose up steadily below him until he felt he could almost reach out and kick them. Then the first damp tendrils of the fog touched him, and a few moments later the clouds closed around and he was alone in the gray world of nothingness.

The last thing that he expected to do, dangling at the end of the kilometer long, bobbing strand, was to fall asleep. But he did. The rocking motion, the fatigue of the day and night ride, and the blankness of his surroundings all contributed their bit. He relaxed, his head dropped, and in a few moments he was snoring lustily.

He awoke when the rain began trickling inside his collar and down his back. Though the air was much warmer he shivered and pulled his collar tight. It was one of those drizzling, dripping, all-day rains that seem to never end. Through it he could make out the streaked face of the cliff still moving by, and when he bent and looked between his toes something indeterminate was visible below. What? People? Friend or foe? If the locals knew about the winch that was out of sight in the clouds above they might possibly keep a massacre party waiting here. He swung the war ax out of his belt and slipped the thong about his wrist. Individual boulders were standing out below, set in a drab field of rain-soaked grass. The air was humid and sticky.

"Unbuckle that harness and be ready to let go of it," Temuchin ordered, coming into sight as he stalked across the field below. "What is the ax for?"

"Anyone other than you who might be waiting," Jason answered, securing the ax in his belt again and working at the leather harness. A sudden stretch on the flexible rope lowered him to within feet of the grass.

"Let go!" Temuchin ordered, and Jason did, unfortunately just as the rope started up again. He rose a

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few feet and, for one instant, was suspended in midair, unmoving and unsupported, before he fell heavily. He rolled when he hit and jammed the hilt of his sword painfully into his ribs, but was otherwise undamaged. There was a quick whoosh above them as the rope, relieved of its burden, contracted and snapped upwards.

"This way," Temuchin said, turning and walking off while Jason struggled to his feet. The grass was slippery and wet, and mud squelched up around his boots when he walked. Temuchin went around a pillar of rock and pointed up at its ten-meter high summit.

"You can watch from there to see when your *morope* arrives. Wake me then. My beast is grazing on this side. Be sure it does not stray." Without waiting for an answer Temuchin lay down in a relatively dry spot in the lee of the rock and pulled a flap of leather over his face.

"Sure," Jason said to himself, "just the job I wanted in the rain. A nice wet rock and a tremendous view of absolutely nothing." He pulled himself up the steeply slanted stone and sat down on its rounded peak.

Thoughts of sleep were gone now, even sitting comfortably was impossible on the knobby hardness, so Jason writhed and suffered. The silence was disturbed only by the endless susurration of the falling rain, broken by an occasional trumpet of satiated joy from the *morope* as it enjoyed the unaccustomed banquet. From time to time the sheets of rain shifted, opening up a view down the hillside of grass pastures, with quick rivulets and dark-stained stones pushing up through the greenery. Ages of rain and damp discomfort passed before Jason heard hoarse breathing overhead and could make out a dim form dropping down slowly through the haze. He slid to the ground and Temuchin was awake and alert the instant Jason touched his shoulder.

There was something awe-inspiringly impressive about the great bulk of the limp *morope*, apparently unsupported, that swung down over their heads. Its legs were beginning to twitch and its breathing grew faster.

"Quickly," Temuchin ordered. "It is beginning to awake."

A sudden bounce dropped the *morope* lower and they grabbed for it, but the return contraction pulled it out of reach again. It was beginning to turn its head and was attempting to lift its neck. The next drop brought it almost to the ground and Temuchin leaped for its neck grabbing it and hanging on, his added weight pulling the foreparts of the creature to the damp ground.

"Unbuckle it," he shouted.

Jason dived for the straps. The buckles were made easy-opening,

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being released by the throwing back of an iron handle. It would have been impossible to open normal buckles against the tension of the taut, stretched cable. The *morope* was beginning to thrash about when Jason threw open the last buckle—and leaped clear. The contraction of the elastic cable pulled the harness out from under the *morope*, raking its flesh so that it bellowed with pain, half flipping it over. The jangling harness, with a departing hiss, instantly vanished from sight in the rain.

The rest of the day settled into routine. Now that Jason knew what to do, Temuchin proved himself an experienced field soldier by taking advantage of the lull to catch up on his sleep. Jason wished he could join him, but he had been left in charge and he knew better than to try and avoid the responsibility. Soldiers and mounts dropped out of the rain-filled sky at regular intervals and Jason organized the operation. Some of the soldiers watched the field of grazing *moropes* while others stood by to land the new arrivals. The rest slept, except for Ahankk who, in Jason's opinion, seemed to have fine vision, and who, therefore, occupied the lookout position. Twenty-five *moropes* and twenty-six men were down before the end suddenly came.

The work party were half dozing, depressed by the endless rain, when Ahankk's hoarse call jabbed them to instant awareness. Jason looked up and had a brief vision of a dark form hurtling down, apparently right at them. This was just an illusion of the mist for the *morope* grew in size and struck the landing spot, plunging to the ground like a falling rock and hitting with a sickening, explosive sound. A great length of rope fell on and around it, the end landing not far from Jason and the soldiers.

There was no need to call Temuchin. He had been awakened by the shout and the sound of impact. He turned away after a single glance at the bloody, deformed corpse of the beast.

"Tie four *moropes* to the harness. I want it dragged away from here, along with that rope." While his lieutenants jumped to obey him he turned to Jason. "This is why I sent a man first, then a *morope*. Two of the men will have to ride double. The stoats warned me that the rope broke after use, and that there was no possible way to tell when this would be. It usually breaks under a heavy load."

"But has been known to snap when letting a man down. I can see why you went first. You'd make a good gambler, warlord," Jason said.

"I am a good gambler," Temuchin told him calmly, running a scrap of oiled leather over his rusting sword. "There is just one rope in reserve, so that I left orders to halt the drop if this one should break. A new rope will be in place by the time we return and a guard

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will be lowered and waiting for us. Now—we ride."

X

"Is it permitted to ask where we are going?" Jason said as the war party moved slowly down the grassy hillside. They were spread out in a wide crescent with Temuchin and Jason at the center, while the *moropes,* who were dragging the carcass of their fellow, rode close by.

"No," Temuchin said, which pretty well took care of that.

It was a smooth descent, as though the plains below were rising up to meet the escarpment, now invisible in the rain behind them. Grass and small shrubs covered the hill, cut through by streams and freshets. As they went lower these joined to form good-sized brooks that the *moropes* splashed through, snorting at the presence of such prodigious amounts of water. And the temperature rose. Jason—and the others—opened the helm back so the fine drizzle fell onto his overheated face. He wiped away the layer of grease that had covered his skin and began to think about the possibilities of bathing again.

The hill ended suddenly in a ragged cliff above a foam-flecked river. Temuchin ordered the corpse of the fallen animal and the festoons of rope dragged forward to the brink, where a squad of soldiers heaved and tipped it over the edge. It hit the water with a showering splash and, with a last, almost flippant, wave of one claw-studded paw, it was whirled away and vanished from sight. Without hesitation Temuchin turned their course southwest along the river's bank. It was obvious that he had been forewarned of this obstacle, and the march continued at its kilometer-eating pace.

By late afternoon the rain had stopped and the character of the country had completely changed. Patches of brush and wood dotted the plain and, not far ahead, an extensive forest was visible under the lowering sky. As soon as Temuchin saw it he halted the march.

"Sleep," he ordered. "We move again at nightfall."

Jason did not have to be ordered twice. He was off his mount, while the others were still stopping, curled up on the grass with his eyes closed and the *morope's* reins tied about his ankle. After the skull-banging, the grazing, drinking and galloping, the creature was happy to rest, too. It stretched full length on the ground, its chin extended in the rich grass, from which it pulled a clump to hold in its mouth while it slept.

The sky was dark, but to Jason it felt as though he had just closed his eyes when the steel fingers sank into his leg and shook him awake.

"We ride," Ahankk said. Jason sat up, his stiff muscles creaking with the effort, and rubbed the granules of sleep from his eyes. He had

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washed out the dregs of *achadh* from his drinking skin earlier in the day and filled it with fresh stream water. He drank his fill and then sprayed a goodly quantity over his face and head. There was no water shortage in this land.

They rode out in a single file, Temuchin leading and Jason one but last from the rear. Ahankk rode as rear guard, and it was obvious from his hot gaze and ready sword that Jason was what he was guarding. The exploring party was now a war party and the nomads needed no aid, and expected only interference, from a wandering jongleur. He was safe in the rear where he could not cause any trouble. If he did, he would be killed instantly. Jason rode quietly, trying to generate an aura of innocent compliance with the set of his shoulders.

There was no sound, even when they entered the wood. The padded feet of each *morope* fell in easy rhythm in the tracks of the preceding beast. Leather did not creak and metal did not rattle. They were spectral forms moving through rain-sodden silence. The trees opened up and Jason was aware that they had entered a clearing. A dim light was visible in the near distance and, by glancing out of the corners of his eyes at it, Jason could make out the dark form of a building.

Still silent, the soldiers had made a smooth right wheel and were moving on the building in a single line. They were no more than a few meters from the structure when a rectangle of light suddenly appeared as a door was opened. A man, silhouetted sharply against the light stood in the opening.

"Save him—kill the rest!" Temuchin shouted, and the attackers leaped forward before the words were out of his mouth.

Chance put Jason near the man in the open doorway, yet everyone else seemed to get there first. The man leaped back with a hoarse cry, trying to close the door, but three men hit it at once, driving it open and sending him back. All three of them remained flat on the floor, where they had fallen and Jason, who had just slid from his *morope's* back, saw why. Five more of the men, two kneeling and three standing, had stopped at the open doorway with drawn bows. Two, three times they fired and the air hissed and thrummed from their bowstrings and the arrows' flight. Jason reached them as they stopped the firing and charged into the building. He was right behind them, but the fight was over.

The barnlike room, lit by a single spluttering candle, was filled to overflowing with death. Toppled tables and chairs made a ragged jumble into which were mixed the dead and dying. A gray-haired man with an arrow in his chest moaned and stirred; a soldier bent over and severed his throat with a chop of

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his ax. There were crashes as the building was broken into from the rear by the rest of the nomads who had surrounded it. Escape was impossible.

One man was still alive, still fighting, the man who had stood in the doorway. He was tall and shock-headed, dressed in rough homespun, and he laid about him with an immense quarter-staff. It would have been simple enough to kill him, an arrow would have done it, but the nomads wanted to capture him and had never encountered this simple weapon before. One already sat on the floor, clutching his leg, and a second was disarmed even as Jason watched, his sword clanging into a corner. The lowlander had his back to the wall and was unapproachable from the front.

Jason could do something about this. He looked around swiftly and saw a rack of simple farm implements against the wall. One of these was a long handled shovel that looked as if it would do. He grabbed it in both hands and banged the center down hard against his knee. It bent but did not break. Well seasoned wood.

"I'll take him!" Jason shouted running to the fight. He was an instant late because the quarterstaff landed square on the swordsman's arm, snapping the bones and sending the man's weapon flying. Jason took his place and swung the shovel at the lowlander's ankles.

The man quickly spun the end of his staff down to counter the blow, and when the weapons crashed together Jason used the force of impact to reverse his direction of motion, bringing the handle end of the shovel around towards the lowlander's neck. The man parried this blow in time as well, but in doing so he had to step aside, away from the wall, and this was all that was needed.

Ahankk, who had come in with Jason, swung the flat of his ax against the man's skull and he dropped, unconscious, to the floor. Jason threw away the shovel and picked up the fallen quarterstaff. It was a good two meters long, made of tough and flexible wood bound about with iron rings.

"What is that?" Temuchin asked. He had watched the end of the brief battle.

"A quarterstaff. A simple but effective weapon."

"And you know how to use it? You told me you knew nothing about the lowlands." His face was expressionless as he talked, but there was a glow like an inner fire in his eyes. Jason realized that he had better make the explanation good or he would join the rest of the corpses.

"I still know nothing about the lowlands. But I learned to handle this weapon when I was a child. Everyone in my . . . tribe uses them." He did not bother to add that the tribe he was talking about

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was not the Pyrrans, but the agrarian community on Porgorstorsaand, far across the galaxy, where he had grown up. With rigid class and social distinctions the only real weapons were borne by the soldiers and the aristocracy. But you can't deny a man a stick when he lives in a forest, so quarterstaffs were in common use and at one time Jason had been proficient in the use of this uncomplicated yet decisive weapon.

Temuchin turned away, satisfied for the moment while Jason spun the staff experimentally. It was nicely weighted.

The nomads were efficiently looting the building, which appeared to be a farm of some kind. The livestock were kept under the same roof and all of the animals had been butchered when the soldiers had broken in. When Temuchin said kill, he meant kill. Jason looked at the carnage and would permit himself no change of expression, even when one of the men, looking for booty, turned over a wooden chest. There was a baby behind it, perhaps thrust there at the last minute by one of the women now dead upon the floor, and the soldier skewered it unemotionally with a quick stab of his sword.

"Bind that one and bring him," Temuchin ordered, brushing the dirt from a piece of cooked meat that had been knocked to the floor in the attack, then taking a bite from it.

Swift, tight turns of leather secured his wrists behind his back, then the prisoner was propped against the wall. When three buckets of water dashed into his face had failed to bring him around, Temuchin heated the tip of his dagger blade in a burning candle and pressed it into the soft flesh of the man's arm. He moaned and tried to pull away, then opened his eyes which swam blearily with the aftereffects of the blow.

"Do you speak the inbetween tongue?" Temuchin asked. When the man answered something incomprehensible the warlord struck him, carefully, on the purple and enflamed wound made by the earlier blow. The farmer screamed and tried to get away, but still answered in the same unknown language.

"The fool cannot speak," Temuchin said.

"Let me," one of his officers said, stepping forward. "What he talks is not unlike the tongue of the hill serpent clan in the far east near the sea."

Communication was established. With laborious rephrasings and repeatings the message was communicated to the farmer that he would be killed if he did not help them. No promises were made for what would happen if he did help, but the lowlander was not in the best of bargaining positions. He quickly agreed.

"Tell him we wish to go to the place of the soldiers," Temuchin said, and their prisoner bobbed his

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head in quick agreement. Understandable. A peasant in a primitive economy has little love for the tax-collecting, oppressing soldiers. He babbled in his hurry to convey information. The translator interpreted his words.

"He says that there are many soldiers there, two hands, perhaps five hands of them. They are armed and the place is strong. They have something else, some kinds of weapons, but I cannot make out what the creature is talking about."

"Five hands of men," Temuchin said, smiling and looking out of the corners of his eyes. "I am frightened."

The nomads nearby hooted with laughter and struck each other on the back, then hurried to tell the others. Jason did not think it a great witticism, but he could find no fault with the men's morale.

A sudden silence passed over them as two of the soldiers slowly approached, supporting and half-dragging one of their comrades. The man hopped on one leg, fighting to keep the other foot clear of the ground, and when he raised his pain-twisted face to Temuchin, Jason recognized him as the one injured in the battle with the quarterstaff-wielding peasant.

"What has happened?" Temuchin asked, all traces of laughter gone from his voice.

"My leg . . ." the man, a minor chieftain, answered hoarsely.

"Let me see," the warlord ordered, and the soldier's boot was quickly cut open.

The man's knee had been shattered brutally, the kneecap fractured so badly that pieces of white bone had penetrated the skin. Slow trickles of blood seeped from the wound. The soldier must be suffering incredible pain, yet he made no outcry. Jason knew that it would take skilled surgery and bone replacement to enable the man to walk again, and wondered what his fate would be on this barbarian world. He found out quickly.

"You cannot walk, you cannot ride, you cannot be a soldier," Temuchin said.

"I know that," the man said, straightening and throwing off the hands of the men who helped him. "But if I am to die I wish to die in combat and be buried with my thumbs. I cannot hold a sword to fight the demons in the underworld if I have no thumbs."

"That is the way it will be," Temuchin said, drawing his sword. "You have been a good soldier and a good friend and I wish you success in your battles to come. I will fight you myself since it is an honor to be sent below by a warlord."

The battle was no ritual, and the wounded man did well despite his injured leg. But Temuchin fought so that the other had to turn toward his wounded side and he could not, so that a quick thrust caught him under the ribs and he died.

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"There was another wounded man," Temuchin said, still holding his bloody sword. The soldier with the broken arm stepped forward, the arm in a sling.

"The arm will get better," he said. "The skin did not break. I can fight and ride, though I cannot shoot a bow."

Temuchin hesitated a moment before he answered. "We need every man that we have. Do those things and you will return with us to the camp. We will ride as soon as this man is buried." He turned to Jason.

"Ride in front with me," he ordered, "and do not make any stupid noise." He apparently did not think much of Jason's soldiering ability, and Jason did not feel like correcting him. "This place of the soldiers is what we are looking for. The stoat clan has raided this country in the past, but with no more than two or three men at a time since to send more *moropes* down is dangerous. They avoid the soldiers and attack these farms. But they have fought the soldiers and it is from them that I learned of the gunpowder. They killed one soldier and took his gunpowder, but when I put fire to it, it merely burned. Yet the stoats swear that it blew up, and others have said the same and I do not doubt them. We will capture the gunpowder and you will make it blow up."

"Take me to it," Jason said, "and I'll show you how it's done."

They blundered through the forest until well after midnight before their prisoner tearfully admitted that he had lost his way in the darkness. Temuchin beat him until he howled with pain then, reluctantly, ordered the men to rest until morning. The rain had begun again and they sought what comfort they could find under the dripping trees.

Jason had a bad taste in his mouth. It wasn't the dung-cooked food this time, or the filthy *achadh*, but the massacre at the farm. Get close to the trees and you don't see the forest. He had been living with the nomads, living like a nomad, and had become part of their culture. They were interesting people and, since moving to Temuchin's camp, he had found them a warm and, if not exactly the galaxy's most humorous people, at least it was possible to get along with them. They were honest in their own way, and respected their own code of laws. They were also cold-blooded murderers and killers. It did not matter that they killed according to their own sets of values. This did not change the situation. Jason could still see the sword thrusting into the infant and he moved uncomfortably on the sodden leaves.

He had been in among the trees and forgotten the forest. He had forgotten that these people had slaughtered the first mining expedition, and would relish nothing better than doing the same to any other off-worlders that they met.

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He was a spy in their midst and he was working for their complete downfall.

That was more like it. He could live with himself as long as it was constantly clear that he was just playing a role, not enjoying himself, and that all this masquerading had some purpose. He had to wreck the social structure of these nomads and see to it that the Pyrrans opened their mines in safety.

Alone in the wet night, chilled and depressed, it looked like a very dim possibility. The hell with that. He twisted and attempted to get comfortable and go to sleep, but the images of the massacre kept interfering.

In your own way, Temuchin, you are a great man, he thought. *But I am going to have to destroy you.* The rain fell, remorselessly.

At first light they moved out again, a silent column through the fog-shrouded forest. The captive peasant chattered his teeth in fear until he recognized a clearing and a path. Smiling and happy now he showed them the correct way. A wad of his clothing was stuffed into his mouth so that he could not give any alarm.

A crackling of broken twigs sounded ahead and there was the sound of voices.

The column stopped with instant silence and a sword was pressed against the prisoner's neck. Nothing moved. The voices ahead grew louder and two men came around a turning of the trail. They walked two, three paces before they were aware of the motionless, silent forms so close to them in the fog. Before they could act a half dozen arrows snuffed out their lives.

"What are those stick-things they carry?" Temuchin said to Jason.

Jason slid to the ground and turned the nearest corpse over with his boot. The man wore a lightweight, steel breastplate and a steel helm, other than that he was unarmored, dressed in coarse cloth and leather. He had a short sword in his belt and still clutched in his hand what could only have been a primitive musket.

"It is what is called a gun," Jason said, picking it up. "It uses gunpowder to throw a piece of metal that can kill. The gunpowder and metal are put down this tube here. When this little lever on the bottom is pulled this stone throws a spark down into the gunpowder which blows up and shoots the metal out."

When Jason looked up he saw that every man within hearing had his bow and arrow aimed at his throat. He put the weapon down carefully and pulled two leather bags from the dead soldier's belt and looked inside of them. "Just what I thought. Bullets and cloth patches here—and this is gunpowder." He handed the second bag up to Temuchin who looked into and smelt it.

"There is not very much here."

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"It doesn't take very much, not for these guns. But there is sure to be a bigger supply in the place where these men came from."

"That is what I thought," Temuchin said, and he waved the raiding party on as soon as the arrows had been retrieved and the bodies relieved of their thumbs and rolled aside. He took both muskets himself.

Less than a ten minute ride along the trail brought them to the edge of a clearing, a large meadow that flanked a smoothly flowing river. At the water's edge stood a squat and solid, stone building with a high tower in its center. Two figures were visible at the top of the tower.

"The prisoner says that this is the place of the soldiers," the officer who had been translating said.

"Ask him if he knows how many entrances there are," Temuchin ordered.

"He says that he does not know."

"Kill him."

A swift sword thrust eliminated the prisoner and his corpse was dumped into the brush.

"There is only that one small door on this side and the narrow holes through which bows and the gun-things may be fired," Temuchin said. "I do not like it. I want two men to look at the other sides of this building and tell me what they see. What is that round thing above the wall?" he asked Jason.

"I don't know—but I can guess. It could be a gun, the same as these only much bigger, that would throw a large piece of metal."

"I thought so, too," Temuchin said, and narrowed his eyes in thought. He issued orders to two men who turned and rode back along the trail.

The scouts dismounted and vanished silently into the underbrush. These men, who had learned to conceal themselves in the apparently barren plains, could disappear completely in the wooded cover. With a predator's patience the warriors, still mounted, waited silently for the scouts to come back.

"It is as I thought," Temuchin said when they had returned and reported to him. "This place is well made and is built only for fighting. There is one more door, the same size, on the other side by the water. If we wait until nightfall we can take the place easily, but I do not wish to wait. Can you fire this gun?" he asked Jason.

Jason nodded, reluctantly, because he already had a very good idea what Temuchin had in mind. Even before he saw the two men returning with one of the dead soldiers. Everyone fought in Temuchin's horde, even lute-playing gunpowder experts. Jason tried to think of a way out of this fix, but he could not, so he volunteered before he was drafted. It made no difference at all to Temuchin. He wanted the gate open and Jason was the best man for the job.

By rearranging the soldier's uni-

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form he managed to conceal the arrow holes and most of the blood, then he rubbed mud over the rest of the bloodstains to disguise them. A fine rain was beginning to fall and this would be a help. While he was putting on the uniform Jason called for the officer who had been translating and had him repeat over and over again the simple phrase "Open—quickly!" in the local tongue, until Jason felt he had it right. Nothing complicated. If they insisted on conversation before they let him in he was good as dead.

"You understand what you are to do?" Temuchin asked.

"Simple enough. I come up to that gate from downriver, while the rest of you wait at the edge of the forest upriver. I tell them to open up. They open up. I go in and do my best to see that the gate stays open until you and the rest arrive."

"We will be very quick."

"I know that, but I'm going to be very alone." Jason had one of the soldiers hold his helmet over the pan of the musket while Jason blew out the possibly damp gunpowder. He did not want a misfire with his single shot. He shook fresh powder into the pan, then wrapped a piece of leather around to keep it dry. He pointed to the gun.

"This thing will fire only once since I'll have no time to reload. And I don't think much of this government-issue short sword. So, if you don't mind too much, I would like to borrow back my Pyrran knife."

Temuchin merely nodded and passed it over. Jason threw away the sword and slipped the knife into his belt in its place. The helmet smelled of rank sweat, but it rode low on his head, which was fine. He wanted his face concealed as much as possible.

"Go now," Temuchin ordered, irritated at the delay the donning of the disguise had caused. Jason smiled coldly and turned and walked away into the woods.

Before he had gone fifty meters he was soaked to the waist by the dense, waterlogged underbrush. This was the least of his troubles. Pushing his way through the sodden forest he wondered how he had become involved in this latest bit of madness. Gunpowder, that was the reason. He cursed loudly and fluently, then peered out at the fortified building, now barely visible through the falling rain. Another twenty meters should do it. He pushed on, then left the shelter of the trees and walked ahead until he reached the river bank. The water swirled by, laden with mud, and the rain spattered onto its surface making an endless series of conjoining rings. He wanted to check the powder in the pan, but knew it was wisest not to. Do it, that's all, do it. Lowering his head he trudged towards the building, just visible as a dim form through the rain.

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If the men in the watchtower were looking at him, they gave no sign. Jason plodded closer, the gun clutched across his chest, looking up under the edge of the helmet. Now he was close enough to see the crumbled mortar between the roughly cut stones, and the heavy bolts that studded the wood of the door ahead. He was close to the wall when one of the soldiers leaned out of the tower and called down to him, incomprehensible words. Jason waved and trudged on.

When the man called again Jason waved and shouted *open* in what he hoped was the correct accent. He made his voice as harsh as possible to disguise any inaccuracies. Then he was against the wall and out of sight of the men in the tower who were still calling out to him. The door, solid and unmoving was just before him. Nothing happened, and the tension tightened another notch. There was a scratching sound and he saw a gun barrel coming out of a narrow window to the right of the door.

"Open—quickly!" he shouted and hammered on the door. "Open!" He pressed flat against the door so the gun could not bear on him and hammered again with the butt of the musket.

There were sounds inside the fortified building, voices and moving about, but the pulse of Jason's blood sounded even louder in his ears. Thudding like a hidden drum, with a measureless time between each beat. Could he get away? Both sides would shoot him if he tried. But he could not stay here, powerless and trapped. As he raised his musket to hammer on the door again he heard the rattle of heavy chains inside and a grating sound remarkably like that made by the sliding of an iron bolt. He cocked the flintlock through the protecting cover and released one side so that the leather could be pulled quickly away. The instant the door started to open he crashed his shoulder against it with all of his weight and pushed through, slamming it wide as hard as he could.

He kept moving, through the short archway and into the open square that the building was built around. Out of the corner of his eye he was barely aware of the man who had opened the door, now crushed by it, slumping to the ground. That was all he had time to notice because he saw that he was about to be killed.

Strike hard and fast and do not stop, that was what the nomads did and they were right. One soldier with a sword in his hand stood to the side, while directly in front of Jason were a number of others with guns leveled and ready to fire. Before the surprised men could shoot, Jason shouted and dived into their midst. Just before he hit them he pulled the trigger and was pleasantly surprised when the musket went off with a hollow boom and

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one of the men clutched his chest and fell. That was the last fact that Jason remembered clearly. He left the ground in a blocking dive, swinging the gun barrel and butt as he did, and crashed into them.

It was very confusing. After the first impact he threw the gun at a soldier, kicked another one while he pulled out the heavy knife and swung it wildly. One man fell on him, dead or wounded, and Jason clutched his body for protection and lunged out with the knife again and again.

There was a sharp pain in his leg, then in his side and arm, and a loud ringing sounded in his head. He swung the knife in an arc and realized that he was falling. The ground felt good and so did the weight of the man lying, unmoving, on top of him. Above him the officer appeared, wild eyed and raging, stabbing down with his sword. Jason parried it almost contemptuously with the knife then stabbed upwards to sink his blade in just above the man's groin. Blood spurted and the officer screamed and fell, and Jason had to push the body aside to see. By the time he did this the quick battle had been decided.

The first of Temuchin's soldiers arrived, plunging headlong through the gate. He must have rode at full speed towards the opening and dived from his saddle as the beast turned away. It was Temuchin himself, Jason realized, as the red-maned barbarian roared and swung his sword to cut down two attacking soldiers. After that it was all over but the mopping up.

Once the immediate dangers had been cleared from around him, Jason stumbled over and dropped with his back against the wall. The ringing in his head ebbed away to a dull buzzing, and when he took his helmet off he found an immense dent in its side. But at least there seemed to be no matching dent in his head. He touched his fingers to the sore spot on his skull then examined them carefully. No blood. But there was enough on his side and dripping down his leg to make up for it. A shallow cut in his hip, just under the half armor, had produced a sopping amount of blood, though the wound itself was superficial, as was the slice in his arm. The wound in his leg had bled only slightly, although it was the more serious of the two, a deep stab wound into his thigh muscles. It hurt, yet he could walk on it, since he had no intention of being exterminated as found wanting like the soldier at the farm. There were some strips of sterilized suede in his saddlebags, for bandaging, and the blood would just have to drip until he got to them.

From the moment when Temuchin dived through the doorway there had been no slightest doubt as to the outcome of the battle. The garrison soldiers had never before faced an enemy to match the bar-

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barous fiends who now fell upon them. The muskets were more of a hindrance than a help, because the bows fired far faster and more accurately than the clumsy, sightless muzzle-loaders. Some soldiers fled and some stood and fought, but the outcome was the same in either case. They were slaughtered. The screams grew fainter and more distant as the survivors tried to escape into the building.

Blood mixed with rain in the sodden courtyard and there were bodies heaped on every side. A single nomad lay slumped in the doorway where a bullet had stopped him, and he appeared to be the only casualty suffered by the raiders. A motion caught Jason's eye and he saw a soldier raise his head above the top of the watchtower where he had been hiding. Something twanged sharply and an arrow sank into the man's eyesocket; he dropped back out of sight more permanently this time.

There were no more groans or appeals for mercy: the fort had been taken. The nomads moved silently among the corpses bending to their grisly ritual amputation. Temuchin came from one of the doorways, his sword red and dripping, and waved one of his men to the huddled collection of bodies near the gate that they had forced.

"Three of these belong to the jongleur," he said. "The rest of the thumbs are mine." The soldier bowed and took out his dagger. Temuchin turned to Jason. "There are rooms in here with many things. Find the gunpowder."

Jason stood up, a lot faster than he really wanted to, and realized that he still held the bloody knife. He wiped it on the clothing of the nearest corpse and held it out to Temuchin who took it without a word, then turned and went back into the building. Jason followed, trying vainly to walk without hobbling.

Ahankk and another officer were guarding the door of a low-ceilinged storeroom. The nomads were looting the bodies and the rest of the fortress, but were not permitted here. Jason pushed by and stopped just inside the doorway. There were baskets of lead bullets, fist-sized cannon balls, extra muskets and swords. And a number of squat barrels sealed with wooden plugs.

"Those have the right look," Jason said, pointing, then put up his arm to stop Temuchin when he started forward. "Don't walk in here. See those gray grains on the floor near the open keg? That looks very much like spilled gunpowder and it can catch fire when you walk on it. Let me sweep it up before anyone else comes in here."

Bending over sent a dagger of pain through his side and leg which Jason did his best to ignore. Using a bunched-up piece of cloth he made a clean path across the room. The open barrel did contain gunpowder. He let the rough granules

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slide back through the hole, then pushed home the bung. Picking the barrel up as gently as he could, he carried it over and gave it to Ahankk. "Don't drop this, bang it, set fire to it or let it get wet. And send down"—he counted quickly—"nine men for the rest of the gunpowder. Tell them what I just told you."

Ahankk turned away and there was a crashing explosion outside followed by a distant boom. Jason jumped to the window and saw that a big bite had been taken out of the watchtower. Fragments of stone dropped into the mud and a cloud of dust was soaked up by the rain. The walls vibrated with the impact and the distant explosion sounded again. A nomad ran in through the gate, shouting in his own tongue.

"What is he saying?" Jason asked.

Temuchin clenched his fists. "Many soldiers coming. They are firing a large gun that makes that noise. Many hands of soldiers, more than he can count."

XI

There was no panic, and scarcely any excitement. War was war, and the strange environment, the rain, the novel weapons—none of this could affect either the barbarians' calm or their fighting ability. Men who attack spaceships have only contempt for muzzle-loading cannon.

Ahankk took charge of the detail to carry the gunpowder, while Temuchin himself went to the battered watchtower to see what kind of force was attacking. Another cannon ball hit the wall and bullets hummed by like lethal bees while he stood there, unmoving, until he had seen enough. He leaned over and shouted orders down to his men.

Jason trailed after the men who were carrying the gunpowder, and when he emerged he discovered that the warlord was the only other living person left inside the fort.

"Through that door," Temuchin ordered, pointing to the gate that opened onto the river bank. "The ones who come cannot see that side yet, and all the *moropes* are there and behind this building. All of you with the gunpowder mount up and when I signal the charge you will go at once to the trees. The rest of us will delay the soldiers and then join you."

"How many men do you think are attacking?" Jason asked, as the gunpowder bearers hurried out.

"Many. Two hands times the count of a man, perhaps more. Go with the gunpowder, the attack is close." It was too, bullets splattered against the wall and spanged in through the firing slits. The roar of attacking voices sounded just outside.

The count of a man, Jason thought, hopping and hobbling to his *morope* that was being held out-

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side. All of a man's fingers and toes, twenty. And a hand times that would be a hundred, two hands two hundred. And their party numbered twenty-three in the most, if no more of the men had been killed during the last attack. Ten men, each to carry a barrel of gunpowder, with Jason along as technical adviser, left thirteen lancers for the attack. Thirteen against a couple of hundred. Good barbarian odds.

Events moved fast after that. Jason barely had time to haul himself into the saddle before the gunpowder party wheeled away, and he made a tardy rear guard. They reached the back of the building just as the first attackers appeared. The remaining thirteen riders charged out and the victorious roar of the foot soldiers turned instantly into mingled cries of shock and pain. Jason stole one glance over his shoulder and saw the cannon upended, men fleeing in all directions, while the *moropes* and their bloodthirsty riders cut a swathe of death through the ranks. Then the trees were before him and he had to avoid the whipping branches.

They waited, just inside the screen of the woods, and within a minute there was the *thud-thud* of galloping *moropes* and seven of them plunged through the sodden brush. One of the beasts was carrying two riders. Their numbers were decreasing with every encounter.

"Go on," Temuchin ordered. "Follow the trail back the way we came. We will stay here and slow down any who try to follow."

As Jason and the powder team left, the survivors were dismounting and taking cover at the edge of the open field. It would take a determined attack to press home against the deadly arrows that would emerge from the obscuring forest.

Jason did not enjoy the ride. He had not dared to bring his medikit, though he wished now that he had taken this risk. Neither had he ever before tried to bandage two slippery wounds on himself, with cardboard-stiff chamois, while charging along a twisting trail on a humpbacked *morope*. It was his fond hope that he would never have to do it again. Before they reached the sacked farmhouse the other riders caught up with them and the entire party galloped on in exhausted silence. Jason was hopelessly lost on the foggy, tree-shrouded paths that all looked alike to him. But the nomads had far better eyes for the terrain and rode steadily towards their objective. The *moropes* were faltering and could only be kept moving by constant application of the prick-spurs. Blood streamed down their sides and soaked into their damp fur.

When they reached the river Temuchin signaled a stop.

"Dismount," he ordered, "and take only what you must have from

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your saddlebags. We leave the beasts here. One at a time now, over that rise to the river." He moved off first, leading his own mount.

Jason was too foggy from exhaustion and pain to realize what was happening. When he finally pulled his mount forward he was surprised to see a knot of men on the river bank with not a single *morope* in sight.

"Do you have everything you want?" Temuchin asked, taking Jason's bridle and pulling the *morope* close to the bank. As Jason nodded he whipped the bowie knife across in a wicked, back-hand slash that cut the creature's throat and almost severed its head from its body. He moved quickly to avoid the pulsing gout of blood, then put his foot against the swaying animal and pushed it sideways into the river. The swift current carried it quickly from sight.

"The machine cannot lift a *morope* up the cliff," Temuchin said. "And we do not want their bodies near the landing spot or the place will be known and soldiers will wait there. We walk." He looked at Jason's wounded leg. "You can walk, can't you?"

"Great," Jason said. "Never felt better. A little hike after a couple of nights without sleep and a thousand kilometer ride is just what I need. Here we go." He walked off as swiftly as he could, trying not to limp. "We'll get this gunpowder back and I'll show you just how to use it," he reminded, just in case the warlord had forgotten.

It was not a very nice walk. They did not stop, but instead passed the barrels from one to another without halting. At least Jason and the other three walking wounded missed this assignment. Trudging uphill on the slippery grass was not easy. Jason's leg was a pillar of pain that bled a steady trickle of blood down into his boot top. He kept falling behind, and the march was endless. All of the others had passed him and, at one point, they were out of sight over a ridge ahead. He wiped the rain and sweat from his eyes and limped on, trying to follow their vague path in the tall grass that was already straightening up and blurring the signs. Temuchin appeared on the hilltop above and looked back at him, fingering his sword hilt, and Jason put on a lung-destroying burst of speed. If he faltered, he would join the *moropes*.

An indeterminate period of time later it came as a complete shock when he stumbled into the small group of men sitting on the grass, their backs to a familiar tower of rock.

"Temuchin has gone," Ahankk said. "You will go next. Each of the first ten men on the rope will carry up a barrel of this gunpowder."

"That's a great idea," Jason said collapsing inertly onto the soggy grass.

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It was an unconscionably long time before he could even struggle to a sitting position, to do what he could to fix his crude bandages. One of the men carried over a barrel of gunpowder that had been secured in a harness of leather straps, with a loop to go around Jason's neck. The rope came down soon after this and he allowed himself to be strapped into it. This time the possibility of falling did not trouble him in the slightest. He rested his head on the gunpowder and fell asleep as soon as the lift began, nor did he awake until they pulled him to the clifftop and his forehead banged against the rock.

Fresh *moropes* were waiting and he was permitted to return alone to the camp, without the gunpowder. He allowed the animal to go at its slowest pace so that the ride was not unbearable, but when he reached his own *camach* he found that he did not possess the strength to dismount.

"Meta," he croaked. "Help a wounded veteran of the wars." He swayed when she poked her head out of the flap, then let go. She caught him before he hit the ground and carried him in her arms into the tent. It was a pleasant experience.

"You should eat something," Meta said sternly. "You have had enough to drink."

"Nonsense," he said, sipping from the iron cup and smacking his lips. "I don't have tired blood—I just have no blood. The medikit said that I was partially exsanguinated and gave me a stiff iron injection to make up for it. Besides, I'm too tired to eat."

"The readings also said that you needed a transfusion."

"A little hard to do that here. I'll drink plenty of water and have goat's liver for dinner every night if . . ."

"Open!" someone shouted, pulling at the laced and knotted entrance flap of the *camach*. "I speak with the voice of Temuchin."

Meta put the medikit under a fur and went to the entrance. Grif, who had been fanning the fire, picked up a lance and balanced it in his hand. A soldier poked his head in.

"You will come to Temuchin now."

"I come at once, tell him that."

The soldier started to argue but Meta twisted his nose and pushed him back through the opening. She laced it shut again.

"You cannot go," she said.

"I have no choice. We've sutured the wounds by hand with gut, that's acceptable, and the antibiotics are not detectable. The iron is already seeping into my bone marrow . . ."

"That is not what I meant," Meta said, angrily.

"I know what you meant, but there is very little we can do about it." He pulled out the medikit and twisted the control dial. "Pain killer

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in the leg so I can walk on it, and a nice big shot of stimulant. I'm taking years off my life with this drug addiction, and I hope someone appreciates it."

When he stood up Meta grabbed him by the arms. "No, you cannot," she said.

He used a gentler warfare, taking her face in his hands and kissing her. Grif snorted with contempt and turned back to his fire. Her hands relaxed.

"Jason," she said, haltingly, "I don't like this. There is nothing I can do to help."

"There's plenty, but not at this moment. Just hold the fort for a while longer. I'm going to show Temuchin how to make his big bang, and then we're going to get out of here, back to the ship. I'll tell him I am going to bring the Pyrran tribe in, which is just what I intend to do. Along with some other things. The wheels are turning and plans are being made, and there is a new day coming soon to Felicity."

The drugs were making him light-headed and elated, and he believed every word he said. Meta, who had spent too long a time bent over a dung fire in this frozen campsite, was not quite as enthusiastic. But she let him go. Duty comes first, that is a lesson every Pyrran learns in the nursery.

Temuchin was waiting, showing no sign of the strain of the past days, pointing to the barrels of gunpowder on the floor of his *camach*.

"Make it explode," he commanded.

"Not in here and not all at once, unless you are planning a mass suicide. What I need is some sort of container that I can seal, and not too big a one either."

"Speak your needs. What you must have will be brought in here."

The warlord obviously wanted his explosive experiments classified Top Secret, which was all right with Jason. The *camach* was warm and relatively comfortable, with food and drink close to hand. He sank into the furs and worried a baked goat's leg until his materials had been assembled, then he set to work.

A number of clay pots had been assembled and Jason chose the smallest one, little more than a cup in size. Then he worked out the plug from one of the barrels and carefully shook some of the gunpowder out onto a sheet of leather. The grains were not very uniform, but he doubted if this would affect the speed of burning very much. This stuff had certainly worked well enough in the muskets. Using a scoop formed of stiff leather, he carefully loaded the pot until it was half full. A trimmed piece of chamois fitted on top of the granules and he tamped it down gently with the rounded end of a worn thigh bone. Temuchin stood behind him watching every step of the process closely. Jason explained.

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"The granules should be close together for even burning, since smooth burning makes the best banging. Or so I have been told by the men in the tribe who know about this sort of thing. This is all as new to me as it is to you. Then the leather goes in to hold the gunpowder in place and to act as a waterproof shield." Jason had ready a mixture of water, dirt from the *camach* floor, and crumbled dug. This made a damp, claylike substance that he now pushed into the pot to seal it. He patted it smooth and pointed.

"It is said that in order to explode, the gunpowder must be completely contained. If there are any openings the fire rushes out through them and the substance simply burns."

"How does the fire reach it now?" Temuchin asked, frowning in concentration as he forced himself to follow the unaccustomed technical explanations. For an illiterate, who couldn't count very well and did not have a shard of technical knowledge, he was doing all right. Jason took up one of the heavy iron needles that were used for sewing the *camach* covers.

"You've asked the right question. The plug is dry enough now, so I can poke a hole through it with this, through the mud and the leather, right down to the powder. Then, using the other end of the needle, I'll push this piece of cloth all the way down into the hole. I liberated the cloth from one of your men who liberated it from a lowlander's back. I have soaked the cloth in oil so that it will burn easily." He hefted the pot-grenade in his hand. "So I think that we are ready to go."

Temuchin stalked out and Jason, with the bomb in one hand and the flickering oil lamp in the other, followed at a suitable distance. A large area had been cleared before the warlord's *camach* and the soldiers held the curious at a suitable distance. The word had been quickly passed that something strange and dangerous was going to happen, so men had come flocking from all parts of the sprawling camp. They were packed solidly into the spaces between the surrounding *camachs*. Jason placed the bomb carefully in the ground and raised his voice.

"If this works there should be a loud noise, smoke and flame. Some of you here know what I mean. So —here goes."

He bent and applied the lamp to the fuse, holding it there until the cloth smoldered and burst into flame. It was burning slowly enough so that he stood for a few seconds to make sure that it was going well. It was. Only then did he turn and stroll back to the *camach* next to Temuchin.

Even Jason's drug-induced confidence did not survive the anticlimax. The fuse burned, smoked,

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gave off some sparks and then, apparently, went out. Jason made himself wait a long time, in spite of the impatient murmurs and occasional angry shouts. He had no desire to bend over the bomb and have it blow up in his face. Only when Temuchin began to finger his knife in a suggestive manner did Jason walk out, hoping that he appeared to be more relaxed than he felt, to look down at the charred fuse opening. He nodded once, sagely, then headed back to the *camach*.

"The fuse went out before it reached the gunpowder. We need a bigger hole or a better fuse—and I have just remembered another stanza of the Song of the Bomb that speaks about that. I will do it now. Do not let anyone approach it until I return." Before he could get any arguments he went back into the *camach*.

The best fuses contained gunpowder, so they could burn even without a supply of air. He needed a gunpowder fuse to get down through that layer of mud. There was plenty of powder here—but what could he roll it in? Paper was best, but in short supply at the present moment. Or was it? He made sure that the entrance was well secured and that he was alone in the tent. Then he rooted in the bottom of his waist wallet and dug out his medikit. He had brought it, despite the risk, since he had no idea how long this session would take, and had not wanted to run any risk of passing out before it was over.

It took just a second to press, twist and pull open the recharging chamber. Folded above the ampules was the inspection and recharge sheet, just big enough for his needs. He slipped the medikit out of sight again.

Making the fuse was simple enough, though he practically had to twist each grain of powder into the paper separately to make sure they didn't lump together and burn too fast. When the job was done he rubbed oil and lampblack into the paper to disguise its pristine whiteness. "This should do it," he said, taking the fuse and the needle and going back to the demonstration.

It almost did a lot more than he had bargained for. The nomads were jeering openly now and making rude noises, while Temuchin was white with rage. The bomb was still sitting innocently where he had left it. Pretending not to hear the unflattering remarks, Jason bent over the bomb and made a new hole in the clay seal. He was taking no chances of poking a smoldering fragment of rag down into the gunpowder. It was still a chancy business, and the sweat on his forehead had nothing to do with the chilling temperature of the morning air as he pushed home the new fuse.

"This is the one that works," he said as he applied the flame.

The paper smoked lustily and crackled as a shower of sparks flew

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into the air. Jason had one brief, horrified glimpse of the flame streaking down the oily gunpowder fuse, then he turned and dived for safety.

This time the results were very impressive. The bomb exploded with a highly satisfactory roar and pieces of jagged pottery whistled away in every direction, ripping holes in a score of *camachs* and inflicting minor wounds on some of the spectators. Jason was so close to the blast that it rolled him over and over on the ground.

Temuchin still stood, unmoving, at the opening of the *camach*, but he did look a slight bit more pleased now. The few shouts of pain from the audience were drowned out in the enthusiastic cries and happy back-slapping. Jason sat up shakily and felt himself all over, but could find nothing broken that had not been fractured before.

"Can you make them bigger?" Temuchin asked, an anticipatory gleam of destruction in his eye.

"They come in all sizes. Though I could give you a more exact idea if you would let me know just what use you have in mind for them."

A stir on the other side of the field distracted Temuchin before he could answer. A number of men on *moropes* were trying to force their way through the crowd and the bystanders did not like the idea. There were angry shouts and at least one broken-off scream.

"Who approaches without permission?" Temuchin said, and when he reached for his sword his personal guard drew their weapons and formed up close to him. The first row of onlookers jumped aside rather than be trampled and a *morope* and rider came through.

"What made that noise?" the rider asked, his voice just as used to automatic command as was Temuchin's.

It was a voice that was very familiar to Jason.

It was Kerk.

Temuchin went striding forward in cold anger, his men grouped around him, while Kerk dismounted and was joined by Rhes and the other Pyrrans. A really beautiful battle was in the making.

"Wait!" Jason shouted and ran to get between the two groups who were on obvious collision course. "These are the Pyrrans," he shouted. "My tribe. Warriors who have come to join the forces of Temuchin." Out of the corner of his mouth he hissed at Kerk. "Relax! Bend the knee a bit before we all get massacred."

Kerk did nothing of the sort. He stopped, looking just as irritated as Temuchin, and fingered his sword hilt in the same threatening manner. Temuchin came on like an avalanche and Jason had to step back or he would have been crushed between the two men. When Temuchin stopped his toes

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were touching Kerk's and they glared at each other with almost eyeball to eyeball contact.

They were very much alike. The warlord was taller, but the solid breadth of the Pyrran could never be mistaken for fat. Their apparel was just as impressive, since Kerk had followed Jason's radioed instructions. His breastplate sported a multicolored and severely two-dimensional design of an eagle, while the eagle's skull itself crowned his helm.

"I am Kerk, leader of the Pyrrans," he said, slipping his sword up and down with an irritating, grating sound.

"I am Temuchin, warlord of the tribes. You will bow to me."

"Pyrrans bow to no man."

Temuchin rumbled deep in his throat like an infuriated carnivore and began to draw his sword. Jason resisted an impulse to cover his eyes and flee. This would be bloody murder.

Kerk knew what he was doing. He had not come here to depose Temuchin—at least not right now—so he did not reach for his own sword. Instead his hand moved with the cracking speed that only Pyrrans have developed, and he seized the wrist of Temuchin's sword arm.

"I do not come to fight you," he said calmly. "I come as an equal to side with you in your cause. We will talk."

His voice did not waver—nor did Temuchin's sword come one centimeter more out of the loops. The warlord had a massive strength and resiliency, but Kerk was an unmoving boulder. He neither moved nor showed any sign of strain while the veins stood out on Temuchin's forehead. The silent struggle continued for ten, fifteen seconds, until Temuchin suffused red under the darkness of his skin, every muscle of his body rock hard with the effort of his exertions.

When it appeared that human muscle and sinew could stand no more, Kerk smiled. Just the barest turning up of the corners of his mouth, visible only to Temuchin and Jason who stood close by. Then, slowly and steadily, the warlord's arm was forced down until his sword was secure in its loops and could go no farther.

"I did not come here to fight you," Kerk said in a barely audible voice. "The young men may wrestle with each other. We are leaders who talk."

He released his grip so suddenly that Temuchin swayed with the reaction, as his tensed muscles no longer had anything to battle against. The decision was his once again, and the intelligent man was warring in his body against the brute reactions of the born barbarian.

For long seconds this silent impasse continued, then Temuchin began to chuckle, the laughter ris-

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ing quickly to a full-throated roar. He threw his head back and laughed defiance of the universe, then swung his arm and clapped Kerk on the shoulder with a blow that would have stunned a *morope*, or have killed a lesser man. Kerk just swayed slightly and returned the smile.

"You are a man I might like," Temuchin shouted. "If I do not kill you first. Come into my *camach*." He turned away and Kerk went with him. They passed Jason without deigning to notice him. Jason rolled his eyes upward, happy to see that the skies had not fallen nor the sun gone nova, then turned and followed them.

"Stay here," Temuchin ordered when they reached the *camach*, spearing Jason with a look of cold fury as though he alone were responsible for the ill events. Temuchin waved the guards to position, then followed Kerk inside. Jason did not complain. He preferred waiting here in the wind, chill as it was, to witnessing the confrontation in the tent. If Temuchin were killed, how would they escape? Fatigue and pain were beginning to creep back and he swayed in the wind and wondered if he could risk a quick stab with his medikit. The answer was obviously no, so he swayed and waited.

Angry voices sounded loudly inside and Jason cringed and waited for the end. Nothing happened. He swayed again and decided that it would be easier to sit down, so he dropped. The ground was chill against his bottom. The voices rose once more inside, then were followed by an ominous silence. Jason noticed that even the guards were exchanging concerned glances.

There was a sharp ripping sound and they jumped and turned, raising their lances. Kerk had opened the entrance flap by pulling on it—hard. Only he had neglected to unlace it first. The thick leather thongs were snapped, or torn loose from their heavy supports, and the supporting iron rod was bent at a sharp angle. Kerk apparently noticed none of this. He stalked by the guards, nodded at Jason, and kept on walking. Jason had a quick look at Temuchin's face, swollen with anger, in the opening. This glimpse was enough. He turned and hurried after Kerk.

"What happened in there?" he asked.

"Nothing. We just talked and felt each other out and neither of us would give way. He would not answer my questions so I did not bother to answer his. It is a draw —for the moment."

Jason was worried. "You should have waited until I returned. Why did you come like this . . . ?" He knew the answer even as he asked, and Kerk confirmed it.

"Why shouldn't we? Pyrrans do not enjoy sitting on a mountain and acting as jailers. We came to see for ourselves. There was some

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fighting on the way here and the morale has improved."

"I'm sure of that," Jason said fervently, and wished he were lying down back in his *camach*.

VII

Back they came from the land of wetness,
Back they came, with thumbs in bunches.
Telling tales of the glorious killing,
In the lands below the clifftops.

Though the wind hissed around the *camach*, and occasionally blew a scattering of fine snowflakes in through the smokehole, the interior was warm and comfortable. The atomic heater generated enough BTU's to defeat all the drafts and leaks, while the strong drink Kerk had brought sat in Jason's stomach far better than the vile *achadh*. Rhes had supplied a case of meal packs and Meta was opening them. The rest of the Pyrrans were setting up their *camachs* nearby, or were unobtrusively on guard near the entrance. For a rare instance, in the heart of the barbarian camp, they were free from observation and safe from sudden violence.

"Pig." Meta said when Jason reached for a steaming and nose-captivating meal pack, "you've already had one."

"First one was for me. This one's for my shattered tissues and drained blood." While he chewed a warming and succulent mouthful he pointed at Kerk's helm. "I see that you joined the eagle clan all right, but where did you get so many skulls? They sure impressed the locals. I didn't know there were that many eagles on the entire planet."

"There probably aren't," Kerk said, running his finger over the hook-beaked and eyeless skull. "We managed to shoot this one and make a mold. All of the others are plastic castings. Now tell us what these plans are that you have formulated, because, as enjoyable as this childish masquerade is, we want an end to it. And a beginning to the mining operation."

"Patience," Jason cozened. "This operation is going to have to take a little time, but I guarantee that there will be plenty of fighting so it will have its high spots. Let me fill in some of the things I have discovered since I talked to you last.

"Temuchin has most of the plains tribes behind him, at least all of the ones that count. He is a damn intelligent man and a shrewd leader. He intuitively knows most of the military textbook axioms. Keep the troops occupied, that's a basic one. As soon as they chased the first expedition away he talked around among the clans and found the one or two tribes that the majority were feuding with. They wiped these out and split up the loot. This has been the process ever

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since. You're either with him or against him, and no one is neutral. All this in spite of the nomads' natural tendency to align and realign and go their own way. The few leaders who have tried to get out from under the new regime have met such violent deaths that all the others are very impressed."

Kerk shook his head. "If he has united all of these people then there is nothing we can do."

"Kill him?" Meta suggested.

"See what a few weeks among the barbarians will do for a girl?" Jason said. "I can't say that I'm not tempted. The alliance would fall apart—but we would be back to square one. If we tried to open the mines, some other leader would appear and the attacks would start again. No, we have to do better than that. If it is possible, I would like to take over his organization and turn it to our own ends. And, Kerk, you're not quite right. He has not united all the tribes, just the strongest ones on the plains. There are a number of smaller ones around the edges that he is not bothering about; they pose no threat. But there are a lot of hairy-necked, mountain tribes in the north who pride themselves on their independence, most of them from the weasel clan. They fight each other, but they will work together against any threat from the outside. Temuchin is that threat—and that's our chance to take over."

"How?" Rhes asked.

"By being better at the job than he is. By covering ourselves with glory and doing better than he does in the mountain campaign. And arranging it so that he makes a couple of mistakes. If we work it right, we should come back from the campaign with Kerk either in the highest councils or an equal of Temuchin. This is a rough society and nobody cares how great you were last year, but what have you done for them lately? A real barnyard-pecking order is in operation, and we are going to arrange it so that Kerk is top pecker. All of us except Rhes, that is."

"Why not me?" Rhes asked.

"You are going to organize the second part of the plan. We never paid much attention to the lowlands, below the cliffs, because there are no heavy metal deposits. However there appears to be a fairly advanced agrarian culture at work down there. Temuchin found a way of sending down a raiding party, an expedition I do not wish to try again, to get some gunpowder. I'm sure he wants to use it against the hills tribes, an ace in the hole to assure victory. Those mountain passes must be hard to attack. I helped Temuchin bring the gunpowder back—and kept my eyes open at the same time. Aside from the gunpowder, I saw flintlocks, cannon, military uniforms and bags of flour. That's strong evidence."

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"Evidence of what?" Kerk was irritated. He preferred to work with simpler, more familiar chains of logic.

"Isn't it obvious? Proof that a fairly advanced culture is in operation here. Chemistry, single crop culture, central government, taxes, forging, large casting, weaving, dyeing . . ."

"How do you know all that?" Meta asked, astonished.

"I'll tell you tonight, dear, when we're alone. It would just appear like bragging now. But I know that my conclusions are correct. There is a rising middle class down there in the lowlands, and I'll wager that the bankers and the merchants are rising the fastest. Rhes is going to buy his way in. As an agrarian himself he has the right background for the job. Look at this, the key to his success."

He took a small metal disk from his pouch and tossed it into the air, then handed it to Rhes. "What is it?" Rhes asked.

"Money. Coin of the lower realm. I took it from one of the dead soldiers. This is the axle on which the commercial world rotates, or is the lubrication on the axle, or whatever other metaphor you prefer. We can analyze this and forge up a batch that will not only be as good—but will be richer and better than the original. You'll take them to buy yourself in, set up shop as a merchant and get ready for the next move."

Rhes looked at the coin distastefully. "And now I'm supposed to play this wide-mouthed question game like everyone else here and ask you what is the next move?"

"Correct. You catch on quick. When Jason talks everyone listens."

"You talk too much," Meta said primly.

"Agreed, but it's my only vice. The next move will be to unite the tribes here, with Kerk in control or close to it, to welcome Rhes when he sails north with his trade goods. This continent may be bisected by a cliff that normally prevents contact between the nomads and the lowlanders, but you can't convince me that I won't find a place somewhere here in the north where it might be possible to land a ship or small boats. One little bit of beach is all we need. I'm sure that seagoing contact has been ruled out in the past because it takes an advanced technology to make floating ships out of iron. Hide and bone framed coracles are a possibility, but I doubt if the nomads have ever even considered the possibility of traveling on water. The lowlanders must surely have ships, but there is nothing up here to tempt them into exploration. Quite the opposite, if anything. But we're going to change all that.

"Under Kerk's leadership the tribes will give a peaceful welcome to traders from the south. Trade will enter the picture and a new

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era will begin. For a few tired furs the tribesmen will be able to gather the products of civilization and will be seduced. Maybe we can hook them on tobacco, booze or glass beads. There must be something they like that the lowlands can supply. And this will be the thin end of the wedge. First a landing on the beach with trade goods, then a few tents to keep the snow off. Then a permanent settlement. Then a trading center and market —right over the spot where our mine is going to be. The next step should be obvious."

There was plenty of discussion, but only about the details. No one could fault Jason's plan, in fact they rather approved of it. It sounded simple and workable, and assigned parts to all of them that they enjoyed playing. All except Meta, that is, she had had enough of dung fires and menial manual labor to last for the rest of her life. But she was too good a Pyrran to complain about her assignment, so she remained silent.

It was very late before the meeting broke up; the boy, Grif, had been asleep for hours. The atomic heater had been turned off and locked away, but the aura of its warmth remained. Jason collapsed into the fur sleeping bag and let out an exhausted sigh. Meta rolled over and put her chin against his chest.

"What is going to happen after we win?" she asked.

"Don't know," Jason said, tiredly, letting his hand run through her short-cropped hair. "Haven't thought about it. Get the job done first."

"I've thought about it. It should mean the end of the fighting for us, forever I mean. If we stay here and build a new city. What will you do then?"

"Hadn't thought," he said, blurredly, holding her close.

"I think I would like to stop fighting. I think there must be other things to do with a person's life. Did you notice that all the women here take care of their own children, instead of putting them into the nursery and never seeing them again like on Pyrrus? I think that might be a nice thing."

Jason jerked his hand away from her hair as from molten metal and his eyes sprang wide open. Dimly, in the far distance, he could hear the harsh ringing of wedding bells, a sound he had fled for more than once in his life, that brought out an instant, running reflex.

"Well," he said, with what he hoped was due deliberation, "that sort of thing might be nice for *barbarian* women, but it certainly isn't the sort of fate to be wished on an intelligent, civilized girl." He waited, tensely, for an answer, until he realized from the evenness of her breathing that she had fallen asleep. That took care of that, at least for the time being.

Then he held the solid warmth of

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her body in his arm and he wondered what exactly it was he was running from and, while he wondered, the drugs and exhaustion hit and he fell asleep.

In the morning the new campaign began. Temuchin had issued his orders and the march got under way at dawn, with a freezing, bone-chilling wind sweeping down from the mountains in the north. The *camachs*, the *escungs*, even carrier *moropes* were left behind. Every warrior brought his own weapons and rations and was expected to take care of himself and his mount. At first the movement was very unimpressive, a scattering of soldiers working their way through the *camachs*, between the shouting women and the ragged children running in the dust. Then two men joined together, and a third, until an entire squad rode together, the riders bobbing up and down in response to the undulating motion of their mounts.

Jason rode next to Kerk, with two-hundred and twenty-five Pyrran warriors following in a double column. He turned in his saddle to look at them. The women could, of course, not ride with them, while twenty men had gone to the lowlands with Rhes. Their ranks had been cut even more by the fourteen vital technicians who had to remain on duty, and the fifteen guards for the prisoners. So out of a total of four-hundred and eighty-five Pyrrans less than half were on this mission. Not what might be called the right size force to gain control of the barbarian army and this occupied portion of the planet. On the surface it looked impossible, but the bearing of the tiny Pyrran force did not reflect that. They were solemn and ready to take on anything that came their way. It gave Jason an immense feeling of security to have them riding behind him.

Once clear of the campsite they could see other columns of men paralleling their course across the rolling sweep of the steppe. Messengers had gone out to all the tribes camped along the river that they were to ride today. The horde was gathering. From all sides they came, drifting in towards the line of march, until there were riding men visible on all sides, clear to the horizon. There was a marked sense of organization now, with different clans falling in behind their captains and forming into squadrons. In the distance Jason saw the black banners of Temuchin's household guards and pointed them out to Kerk.

"Temuchin has two *moropes* loaded with our gunpowder bombs, and he wants me to ride with him to supervise the operation. He pointedly did *not* mention the rest of the Pyrrans, but we're all going to stay with him whether he likes it or not. He needs me for the gunpowder—and I ride with my tribe.

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It's a winning argument that I'm sure he can't beat."

"Then we shall put it to the test," Kerk said, spurring his beast into a gallop. The Pyrran column sliced through the galloping horde towards their leader.

They swung in from the right flank until they were riding level with Temuchin's men, then slacked back to the same pace. Jason started forward, ready with his foolproof arguments, but found them unnecessary. Temuchin took one slow, cold look at the Pyrrans, then turned his eyes forward again. He was like a chess master who sees a mate twelve moves ahead and resigns without playing the game out. Jason's arguments were obvious to him and he did not bother to listen to them.

"Examine the lashings on the gunpowder bombs," he ordered. "They are your responsibility."

From his vantage point near the warlord Jason witnessed the smooth organization of the barbarian army, and began to realize that Temuchin must be a military genius. Illiterate and untutored, with no authorities to rely on, he had reinvented all of the basic principles of army maneuvers and large-scale warfare. His captains were more than just leaders of independent commands. They acted as a staff, taking messages and relaying orders on their own initiative. A simple system of horn signals and arm motions controlled the troops, so that the thousands of men formed a flexible and dangerous weapon.

Also an intensely rugged one. When all the troops had joined up Temuchin formed them into a kilometer-wide line and advanced on the entire front at once—without stopping. The advance which had begun before dawn continued into the early afternoon without a halt for any reason. The rested and well-fed *moropes* did not like the continuous ride, but they were capable of it when goaded on by the spurs. They shrieked protest, but the attack went on. The endless jogging did not seem to bother the nomads who had been in the saddle almost since birth, but Jason, in spite of his recent riding experience, was soon battered and sore. If the ride was affecting the Pyrrans in any way, it was not noticeable.

Squadrons of riders scouted out ahead of the main company of troops, and by late afternoon the attacking army came across their handiwork. Slaughtered nomads, first a single rider, his blood mixed with that of his butchered *morope*, then a family unit that had been unlucky enough to cross the path of the army. The *escungs* and folded *camachs* were still smoldering, surrounded by a ghastly array of dead bodies. Men, women and children, even the *moropes* and flocks, had been brutally slain. Temuchin

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fought total war and where he had passed nothing remained alive. He was brutally pragmatic in his thinking. War is fought to be won. Anything that assures victory is sensible. It is sensible to make a three-day ride in a single day if it means the enemy can be surprised. It is sensible to kill everyone you meet so that no alarm can be given, just as it is sensible to destroy all their goods so your warriors will not be burdened by booty.

The truth of Temuchin's tactics was proven when, just before dark, the racing army swooped down upon a large sized village of the weasel clan in the foothills of the mountains.

As the great line of riders topped the last ridge the alarm was given in the camp, but it was too late for escape. The ends of the line swung in and met behind the camp, though it looked as though some hard-ridden *moropes* had slipped through before the forces joined. Sloppy, Jason thought, surprised that Temuchin had not done a better job.

After this it was just slaughter. First by overwhelming flights of arrows that drove back and decimated the defenders, then by a lance charge at full gallop. Jason hung back, not out of cowardice, but from simple hatred of the bloodshed. The Pyrrans attacked with the rest. Through constant practice they were all now proficient with the short bow, though they still could not fire as fast as the nomads, but it was in shock tactics that they proved what they could do. If they had any qualms about killing the nomad tribe, they did not show it. They struck like lightning and tore through the defenders and overrode them. With their speed and weight they did not parry or attempt to defend themselves. Instead they hit like battering rams, slashed, killed and kept on without slowing. Jason could not join them in this. Instead he remained with the two disgruntled men who had been detailed to guard the gunpowder bombs, picking out chords on his lute as he composed a new song to describe this great occasion. It was dark before the pillage was over and Jason rode slowly into the ravished encampment. He met a rider who was searching for him.

"Temuchin would see you. Come now," the man ordered. Jason was too tired and sickened to think of any sharp comebacks.

They made their way through the conquered encampment, with their *moropes* stepping carefully over the sprawled and piled corpses. Jason kept his eyes straight ahead, but could not close his nose to the slaughterhouse stench. Surprisingly, very few of the *camachs* had been damaged or burned, and Temuchin was holding an officers' council in the largest of them. It had undoubtedly belonged to the former leader of the clan, in fact the chieftain himself lay gutted, dead and unno-

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ticed against the far side of the tent. All of the officers were assembled —though Kerk was not present— when Jason entered.

"We begin," Temuchin said, and squatted cross-legged on a fur robe. The others waited until he sat, then did the same. "Here is the plan. What we did today was nothing, but it is the beginning. To the east of this place is a very large encampment of the weasel tribes, and tomorrow we march to attack this place. I want your men to think we go to this camp, and I want those who watch from the hills to think the same. Some were permitted to escape to observe our movements."

That for my theory about sloppy soldiering, Jason thought. *I should have known better. Temuchin must have this campaign planned down to the last arrowhead.*

"Today your men have ridden hard and fought well. Tonight the soldiers not on guard will drink the *achadh* they find here and eat the food, and will be very late arising in the morning. We will take the undamaged *camachs* and destroy the rest. It will be a short day and we will camp early. The *camachs* will be set up, many cooking fires lit and kept burning, while patrols will sweep as far as the foothills so that the watchers will not get too close."

"And it is all a trick," Ahankk said, grinning behind his hand. "We will not attack to the east after all!"

"You are correct." The warlord had their complete attention, the officers leaning forward unconsciously so as to not miss a word. "As soon as it is dark the horde will ride west, a day and a night's ride should bring us to The Slash, the valley that leads to the weasel's heartland. We will attack the defenders, with the gunpowder bombs against their forts, and seize control before reinforcements can arrive."

"Bad fighting there," one of the officers grumbled, fingering an old wound. "Nothing there to fight for."

"No, nothing *there,* you brainless fool," Temuchin said in such a cold and angry tone that the man recoiled, "nothing at all. But it is the gateway to their homeland. A few hundred can stop an army in The Slash, but once we are through they are lost. We will destroy their tribes one by one until the weasel clan will be only a memory for the jongleurs to sing about. Now issue your orders and sleep. Tomorrow night the long ride and the attack begins."

As the others filed out, Temuchin took Jason by the arm.

"The gunpowder bombs," he said. "They will blow up each time they are used?"

"Of course," Jason answered, with far more enthusiasm than he felt. "You have my word on that."

It wasn't the bombs that were worrying him, he had already taken precautions to assure satisfactory

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explosions, but the prospect of another non-stop ride even longer than the first. The nomads would do it, there was no doubt about that, and the Pyrrans could make it as well. But could he?

The night air was bitterly cold when he emerged from the heat of the *camach*. His breath made a sudden, silver fog against the stars before it vanished. The plains were still, cut through by the occasional snort of a tired *morope* or the drunken shouts of the soldiers.

Yes, he would make the ride all right. He might have to be tied to the saddle and hopped up with drugs, but he was going to make it. What really concerned him was the shape he would arrive in at the other end of the ride. This did not bear thinking about.

XIII

"Hold on for just a short while longer. The Slash is in sight ahead," Kerk shouted.

Jason nodded, then realized that his head was bobbing continuously with the *morope's* canter and his nodding was indistinguishable from this motion. He tried to answer, but started coughing at the cracked dryness of his throat, filled and caked with the dust stirred up by the running animals. In the end he released his cramped grip on the saddle pommel long enough to wave, then clutched at it again. The army rode on.

It was a nightmare journey. It had started soon after dark on the previous night, when company after company of riders had slipped away to the west. After the first few hours fatigue and pain had blended together for Jason into a misty unreality that, with the darkness and the countless rows of running shapes, had soon resembled a dream more than reality—a particularly loathsome dream. They had galloped, without stopping, until dawn, when Temuchin had permitted a short halt to feed and water the *moropes* for the balance of the journey. This stop may have helped their mounts, but it had almost finished Jason.

Instead of dismounting he had fallen from his *morope*, and when he had tried to stand his legs had failed him. Kerk had dragged him to his feet and walked him in a circle while another Pyrran cared for both their mounts. Feeling had finally returned to his numb legs, and with it excruciating pain. His thighs were soaked with blood where the continual friction of the saddle had chafed away the skin. He had permitted himself a light injection of pain-killer and some stimulant, then the ride had begun again. One fact he knew, and hated, was that he had to be sparing with the drugs. When this ride was over the real battle would begin, and that would be the time when he would need all of his wits and strength. So the strongest drugs

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would have to be saved until then.

In an inverse way he could be proud of himself. More than one rider and *morope* had been lost during this insane ride and he, the offworlder who had never seen one of the creatures until a few months ago, was still going on. Barely. Some of the mounts had stumbled and fallen. Other riders had apparently gone to sleep or passed out, had slipped from their saddles and had been trampled. It was certain death to drop beneath those running claws.

If The Slash was up ahead, the time had finally come to utilize the drugs he had been hoarding. Squinting against the late afternoon sun, and the blinding clouds of dust, he saw a dark cut against the gray white of the mountains ahead. The Slash. The valley they hoped to capture, that would lead them to certain victory. Right now the drugs were more important than any number of victories. He dialed the medikit with clumsy fingers and jammed it against the heel of his hand.

As the drugs cleared the haze of fatigue and drew numbing layers over the pain, Jason realized that Temuchin was insane.

"He's calling for a charge," Jason shouted across to Kerk as the signal horns sounded on all sides. "After all this riding . . ."

"Of course," Kerk said. "It is the correct way."

The correct way. It wins wars and kills men. An angry *morope*, squealing at the pain of ruthlessly applied spurs, reared up and threw its rider under the running feet of the others. This was not the only death. Still, the attack was pressed home.

Across the plains the army swept and into the mouth of the valley. Picked bowmen dismounted and clambered along the walls of The Slash, to add their fire to the attack of the solid column streaming by below them. The leaders vanished into the valley and still others followed. A cloud of dust obscured the entrance. The Pyrrans pressed forward to the attack with the others while Jason turned off and headed for Temuchin's standard as he had been ordered. The personal guardsmen opened to let him through.

Temuchin took a report from a rider, then turned to Jason. "Get your bombs," he ordered.

"Why?" Jason asked, then hurried on as the light of instant anger burst in the other man's eyes. "What do you want me to do with them? Order, great Temuchin, and I shall obey. Only please give me some idea what you want me for."

The anger vanished as quickly as it had come. "The battle has gone as did all the others," the warlord said. "We have taken them by surprise and only the normal garrison is here. The lower redoubts have been taken and we now press on the higher ones. These are rock-

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walled and set into the cliff. Arrows cannot reach the defenders. They must be attacked on foot, slowly, from behind shields, if we are not to lose half an army. They cannot be stormed. Each time before it has been this way. One by one we take the redoubts and work our way up The Slash. Before we reach the other end the reinforcements have arrived and further battle is useless. Only this time it will be different."

"I can just guess. You think that a gunpowder bomb in each position would take the fight out of the defenders and speed the attack?"

"*You speak correctly.*"

"Then here I go, the first Felicitation Grenadiers to the attack. I will want some of my people to help me. They can throw farther and better than I can."

"The order will be issued."

By the time Jason had found the pack animals and unloaded the first of the bombs, the Pyrrans had arrived. Kerk and two others, sweaty and dusty from the fight, with that look of grim pleasure Pyrrans have only during battle.

"Ready to throw some bombs?" Jason asked Kerk.

"Of course. What is the mechanism?"

"Improved. I had a feeling that excuses are not much good with Temuchin and I wanted grenades that would go off every time." He held up one of the pot-bombs and pointed to the cloth wick. "There's gunpowder in these things all right, but mostly for the smoke and the stink. The wick is a dummy. You'll have to light it, I've made punk pots from grass for this, but that is just for effect. Let the wick smolder a bit, then pull up on it sharply. There is a microgrenade embedded in each one of these things, with the cloth wick tied to the trip pin. After you pull you have three seconds to toss and duck."

Taking a flint and steel from his wallet, Jason bent over the pot of shredded punk and began to scratch away industriously. As the sparks smoldered and died he looked out of the corners of his eyes to be sure he wasn't observed, then quickly actuated the lighter he had palmed. The tongue of flame flicked out and fired the punk.

"Here you are," he said, handing the smoldering pot to Kerk. "I suggest you carry this and throw the grenades, since you can undoubtedly toss them farther than I can."

"Farther and much more accurately."

"Yes, there is that, too. I and the others will carry the bombs for you and act as guards in case of a counterattack. Here we go."

They left their mounts and proceeded on foot into The Slash. The attacking troops were still moving up, so they worked their way along the sloping wall of the valley to avoid being trampled. As they went farther in they met the first debris of battle. Wounded soldiers who

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had crawled to the side out of the path of the still attacking army. The ones who had not made it were just red smears in the dust below. There were occasional dead *moropes* as well, their massive bodies standing up like blood-stained boulders. Now The Slash narrowed and the walls grew steeper: they found themselves following a goat path, their hands pressed against the stone for support. In this manner they reached the first redoubt. This was a crude but effective wall of piled rocks that fortified a narrow ledge. Jason clambered up the boulders to peer inside. He would need some idea of how these things were built up in order to blow them down. The defenders, stocky men in dusty furs, each with a weasel's skull lashed above his forehead, lay where they had fallen. Their bodies bristled with arrows; their thumbs were missing. Hard-carapaced death beetles had appeared out of the ground and were already at work.

"If they're all like this, we won't have any trouble," Jason said, sliding down to rejoin the others. "The boulders are just piled up with no sign of any mortar. A grenade, if it doesn't knock out all the soldiers, should blow a gap in the wall big enough to let Temuchin's lads through."

"You are optimistic," Kerk said, taking the lead again. "These are merely outposts, the main defenses must lie ahead."

"Well that's better than being pessimistic. I'm trying to talk myself into believing I'll live through this barbarian war and actually be warm again some time."

It was no longer possible to walk on the valley side and they had to drop down and push their way through the soldiers. As the rock walls became more vertical The Slash narrowed, and Jason could appreciate the difficulties of capturing it when it was stoutly defended. All of the *moropes* had been sent back and the attackers were now on foot. An arrow cracked into the stone above Jason's head and clattered down at their feet.

"We're at the front lines," Jason said. "Hold the advance here while I take a look." He pulled himself up the sloping side of one of the massive boulders that filled the gorge and, with his helm pulled low, slowly raised his head above the top. An arrow instantly clanged off of it and he quickly tilted his head forward until he was peering through the merest slit between the helm and the stone.

The advance had stopped ahead, where two redoubts, on opposite sides of The Slash, could sweep the entire floor of the valley with their accurate arrow fire. The defenders were firing from slits between the rocks and were almost impregnable to any return fire. Temuchin's forces were suffering losses in order to take the defended points the' hard way. Protected slightly by

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their shields, moving in quick rushes from boulder to boulder, they crept forward. And died.

"The range is about forty meters," Jason said, sliding back to the ground. "Do you think you can toss one of these things that far?"

Kerk bounced the homemade bomb on the palm of his broad hand and estimated its weight. "Easily," he said. "Let me look first so I will know what the distance is." He moved up to the position Jason had vacated, took one look, then dropped back down.

"That defended position is bigger than the others. It will take at least two bombs. I will light this one, hand you the smudge pot, then step out and throw the bomb. In the meantime you will have lit a second one—do not arm it—which you will give to me as soon as I have thrown the first. Is that clear?"

"Crystalline. Here we go."

Jason slipped off the sling of bombs and kept only one in his hand. The nearby soldiers, who had all heard about the gunpowder experiments, were watching closely. Kerk lit the false fuse, blew it into smoking life, then stepped out from the shelter of the rock. Jason hurriedly lit the bomb he carried and stood ready to pass it on.

With infuriating calm Kerk drew his arm back, while one arrow zinged close by him and another shattered on his breastplate. Then he lowered the bomb, wet his finger and raised it to check the direction of the wind. Jason hopped from one foot to the other and clamped his teeth tightly together to stop from shouting at the Pyrran to throw.

More arrows arrived before Kerk was satisfied with the wind and drew his arm back again. Jason saw his thumb and index finger give the smoldering fuse a quick tug before, with a single contraction of all his muscles, he threw the bomb. It was a good, classic grenade throw. Straight armed and overhand, sending the bomb on a high arc towards the defended position. Jason reached out and slapped the second bomb into Kerk's waiting hand. This one followed the first.

Kerk stood where he was and Jason, dismaying his own cowardly survival instincts, remained exposed as well, watching the two black spots soar high and down behind the wall.

There was an instant of waiting —then the entire stone-walled position leaped out into the air and crashed down in fragments below. Jason had a quick vision of bodies tossed high, before he dodged behind the boulder to avoid the chunks of falling rock.

"Very satisfactory," Kerk said, pressed against the stone face close to Jason while stone shards rattled down around them.

"I hope the rest are this easy."

Of course they weren't. The watchful defenders saw quickly enough that one man, throwing

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something, was responsible for the disaster, and the next time Kerk emerged he had to withdraw swiftly as a solid flight of arrows smashed down on his position.

"This is going to take some planning," Kerk said, automatically snuffing out the sputtering fuse.

"Are you afraid? Why do you stop?" an angry voice asked, and Kerk wheeled around to face Temuchin who had come up to the front under the protective shields of his personal guard.

"Caution wins battles, fear loses them. I shall win this battle for you." Kerk's voice was as coldly angry as the warlord's.

"Is it caution, or cowardice, that keeps you behind this boulder after I have ordered you to destroy the redoubts?"

"Is it caution, or cowardice, that puts you here beside me instead of leading your men into battle?"

Temuchin made an animallike noise deep in his throat and pulled out his sword. Kerk raised the gunpowder bomb, apparently eager to stuff it down the other's throat. Jason drew in a deep breath and stepped between the two men.

"The death of either of you would aid the enemy," he said, facing Temuchin since he was fairly sure that Kerk would not strike him from behind. "The sun is already behind the hills, and, if the redoubts are not knocked out by dark, it may be too late. Their reinforcements could arrive during the night and that would end this campaign."

Temuchin swung his sword back to cut Jason out of the way, while Kerk clutched his arm to pull him aside, his fingers steel clamps penetrating to the bone. Jason controlled the impulse to howl with pain and said, "Order the rest of the Pyrrans here and have them, and other soldiers, throw rocks at the defended points. They won't do much harm —but the bowmen will not be able to pick out the real bomb throwers." The sword hesitated, the grinding fingers relaxed the slightest amount—and Jason hurried on.

"It is sure death for one man to stand up to the concentrated fire. But, if we can divide the fire, we can march up this valley just as fast as we can walk and clean them out. We'll be past the defenses by dark."

For one instant Temuchin's attention wavered back to his army, and the darkening sky—and the tension was broken. Winning this battle was the only important thing, and personal intrigues would have to wait. He began to issue orders, unaware of the sword still grasped in his hand. Kerk's taloned grip finally relaxed and Jason stretched his bruised muscles.

The advance could not be stopped now. Stone-throwing figures bobbed up on all sides, and the baffled enemy had no way of telling which one was the lightning-hurler. While the nomads just lobbed their stones and darted back to safety, the Pyrrans, with years of

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grenade throwing experience, took careful aim and planted their small boulders behind the barricaded walls, breaking more than one skull in the process. They marched forward relentlessly and, one by one, the resisting strong points were demolished.

"We're coming to the end," Jason shouted, pounding Kerk on the shoulder and pointing ahead.

At this place The Slash was less than a hundred meters wide, pinched in by two tall spires of solid rock that rose straight up from the valley floor. Through this narrow gap could be seen the red of the sunset sky—and the plain beyond. The almost vertical walls ended at the spires. Once the horde passed them it could not be stopped.

As Jason and Kerk pushed forward with a fresh supply of bombs they realized that most of the soldiers were running back towards them. From up ahead came the shrill rise and fall of the iron horns.

"What is happening?" Kerk asked, grabbing one of the running men. "What do the horns mean?"

"Retreat!" the man said, pointing upwards. "Look at that." He pulled free and was gone.

A large boulder bounced down among the fleeing soldiers, squashing one of them like an insect. Jason and Kerk looked up and saw men clambering on the valley's rim high above. They were clearly outlined against the sky, heaving and pulling at a rounded pile.

"On the other side, too," Jason called out. "They've got boulders heaped up on both sides, ready to be rolled down on our heads. Pull back!" Reluctantly, they retreated, as more stones rumbled down.

Only the fact that this last resort weapon had never been used before saved the attacking forces. The rocks and boulders had been piled higher, generation after generation, until the supporting props were wedged firmly against the cliff edge. Warriors with long rods pushed at them, but they would not budge. Finally, one brave, or foolhardy, tribesman swung down on a rope and hammered the supports where they sank into the stone. He must have succeeded because in an eyeblink he was gone, swept away by the falling boulders that, for a fleeting instant, appeared to hang suspended in the air before they fell. A short while after this the supports on the opposite cliff gave way.

Jason and Kerk ran with the others.

The loss of life was not great, since most of the men had been warned in time. In addition, the narrowness of The Slash at this point acted as a choke, piling up the falling stone behind the gateway.

When the last boulder had rattled into silence The Slash was walled shut, completely plugged by the barrier of rock.

The campaign was obviously lost.

To be concluded

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You don't get something for nothing—but sometimes you're faced with the problem that you're not allowed to work for it either!

BY VERGE FORAY

Illustrated by Kelly Freas

Barbara Smith led the two small boys, one by each hand, into an ugly, sparsely furnished room in the Thorling School basement. There was an old couch, a table littered with gaudy children's books and magazines, and a couple of scarred chairs. On the floor was a toy fire truck. On the window sills, so high as to be well out of arm's reach of the boys, sat what appeared to be an assortment of bottles and dime-store vases. Actually, these were made of lightweight, easily shattered plastic, not of glass.

"Here we are, children!" said Miss Smith. She released them and backed away, leaving the tykes to stare at one another with uneasy curiosity. Miss Smith added, "Stevie, this is David; David, this is Stevie. Now, you two play, and I'll come back in a little while."

She left the room.

Left to their own devices, Stevie and David prowled their separate, self-conscious courses about the room, each aiming indirectly at the fire truck—the only toy in sight.

"Are you goin' to go to school here?" David asked.

"I guess so," said Stevie. "Are you?"

"Yeah."

"I'm five."

"I'm almost."

They arrived at the fire truck at the same time. Stevie squatted beside it and pressed his right hand firmly on its red top. Without closing his fingers he pushed it back and forth, while David watched silently. Then Stevie shoved it across the floor to bang against a wall, and David walked after it. He kneeled beside the truck, tried the back-and-forth routine, then scooted it back in Stevie's direction. Stevie sprawled sideways to intercept it and both boys laughed.

Soon they were both sitting on the floor, some distance apart, happily rolling the truck from one to the other. The routine of a game had been established.

Watching from behind a one-way mirror, Headmaster Judson Royster grunted dubiously, "This doesn't look like a psychokinetic duel to me. They've gotten on good terms almost immediately. Is there any point in continuing?"

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Miss Smith was frowning in disappointment. "Let's watch a little longer," she urged. "This was such a fine opportunity—two new children, boys the same age, strangers to each other, with home reputations for 'throwing things' and, of course, both with behavior problems. I still think those young fellows ought to be tangling for possession of that fire truck!"

"Just how did you expect this battle of the century to develop?" Royster asked dryly.

Miss Smith's eyes snapped at him, but her words were matter-of-fact: "The fight for possession would be physical, a tugging match probably. As soon as one boy got possession, the other would vent his frustration by pelting the victor with the vases and bottles. This would scare and anger the victor into retaliating in kind. If this phase could end with only one piece of ammunition left unbroken, and both boys struggling for psi control of that piece . . ."

". . . Then both boys would wind up with well-developed mental muscles, after just one easy lesson," Royster finished. He looked through the mirror at the boys, who were still playing peaceably. "Perhaps it could work even yet," he added, "but I've explained my lack of faith in shortcuts of this sort. And anyway, the problem is not so much to strengthen ESP talents as to bring them under conscious control. That has always been the problem, and I know only one way to solve it. No matter how many breakaway bottles David and Stevie pelt each other with while in fits of rage, I wouldn't expect the exercise to prepare them, when they're making a calm, rational effort, to roll one peanut."

He concluded with a grin, "Are you sure we're not staging this experiment simply to satisfy your feminine urge to see two masterful males locked in combat?"

Miss Smith gave the remark the sniff of dismissal which, Royster agreed to himself, was all it deserved. Why did his attempts at jokes with her always come out with more cutting edge than humor? Maybe the reason was that he . . . *No!* He broke away from the forbidden train of thought, as he always did. After all, he was in a building full of telepathic children!

"I'll get another pretty girl's opinion," he said lightly, turning to the serious-faced, twelve-year-old blonde who was standing a little apart from them in the observation cubicle. "Jilly," he asked, "how do you size up our gladiators?"

"They won't fight," Jilly replied assuredly. "David started to get mad when Stevie first touched the truck, but he just stood there. They're pretty sure they're being watched."

"How's that? Telepathy?"

"Just a little bit," the girl answered. "Not that they can read us or anything, but they can sense us looking at them. So they won't fight while they feel like that."

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"Damn!" groaned Miss Smith. "Forgive the language, Jilly, but I'd have thought it if I hadn't said it! The whole idea of this experiment hangs on those two kids being isolated! Certainly it won't work with them aware of adult presences!"

"Maybe if you let a movie camera do the watching it would work," Jilly suggested.

"There isn't a camera in the building," said Royster. "And besides . . ."

A boy of nine pushed through the door of the observation booth with an excited expression on his face. "Hostiles in the first floor halls, Mr. Royster!" he puffed breathlessly. Turning to Jilly he added an angry reproach, "Jilly, why wasn't you *listening*?" . . .

"I was busy listening to them," she answered, pointing to the boys playing with the truck.

"What kind of hostiles, Arthur?" Royster asked.

"Inspectors from the state! School credit inspectors!"

"Accreditation inspectors from the State Department of Public Instruction?" Royster asked sharply.

"Yeah! That's them! And they have it in for the school!"

Royster nodded grimly. "I'd better get up there," he said swiftly. "Miss Smith, take David and Stevie up to Miss Wembley's class, then go on to the office. Jilly, Arthur, spread the word that outsiders are here and that everything must look normal in the classrooms. And get back to your own classes."

"The dormitories are fragrant," commented Arthur.

Royster stared down at him in puzzlement for a second, then said, "The word is 'flagrant', Arthur. You're right. Jilly, get three of the older boys and two girls plus yourself up to the dorms right away. Put everything used in ESP out of sight —the pendulums, pith balls, decks, everything! Hurry! I'll try to keep the inspectors away from the dorms long enough for you to get through."

"O.K.," said the girl, dashing off. Miss Smith had already gone to retrieve her young duelers and take them to the kindergarten class. Royster left the observation booth and headed for the stairs with Arthur at his heels.

"Are you sure you won't need me or somebody with you, Mr. Royster?" the boy asked.

"Hm-m-m. Maybe so, Arthur. Stay with me, but get rid of that excited expression. Look sullen! Remember that you're a badly-behaved problem child who can't adjust to adults or to your peers."

"O.K.," the boy said. Royster glanced back at him. The boy looked satisfactorily rebellious and woebegone. Royster hoped he could play his own role as convincingly.

On two scores Royster had a head start. First, his appearance was prototypical of the dedicated, harassed, rather ineffectual schoolman. He was of medium height, a

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little underweight, bespectacled, and despite his thirty-five years a bit too youthful-looking to seem a capable adult.

Second, at this moment he felt as nervous and unsettled as anyone would expect the headmaster of a school full of young misfits and antisocials to be. This surprise visit by the state accreditation team could darken the school's future, and he knew it. If he could stay on the defensive with the inspectors, not get angry and tell them to go to hell, perhaps things would go off all right.

There was plenty to get angry about, though. The fact that this was a *surprise* inspection, for instance. Schools in the public system were never subjected to such upsetting visits. And even the private schools, traditionally viewed with suspicious dislike by state education officials, were hit by surprise inspections so seldom that the very act of an accreditation team, showing up unannounced at one of them, was tantamount to an accusation of educational hanky-panky.

All Royster could hope for would be grudging agreement that Thorling School's students would, in the event of their transferral to another school, continue to be accepted as bona fide graduates of the last grade they had completed at Thorling. Or, when Thorling reached the stage, in another five years, of graduating high-school students, these would be accepted by standard colleges and universities, subject only to the usual entrance examinations and placement tests.

There would be no pats on Royster's head from any state school officials, no praise for Thorling for a difficult job well done—for a very good reason: Thorling was succeeding in educating children with whom the public schools had failed. Such a success was hardly the sort to please the leaders of the state's educational and political power structures, even though it should have been plain to everyone that Thorling was specialized for a task that public schools, by their very nature, could not be expected to handle.

So the public school psychologists and counselors grudgingly referred to Thorling the children they could not get through to, particularly the kindergarteners they did not even wish to try to get through to. Thorling accepted some of these and sent the others back. When asked to explain the school's criteria for accepting or rejecting a referred child, Royster spouted a dizzying line of educational doubletalk that, if stripped of its camouflaging verbiage, would have amounted to nothing more than: "We take the children we can help."

The carefully concealed truth was, of course, that Thorling took those children who had extrasensory abilities, whose behavior problems in fact usually stemmed from the difference these abilities created between them and other children.

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Brought together with others of their own sort, these children were no longer misfits. They became attainable—to each other, to their teachers, to the normal processes of schooling, and to the development and joyful use of their special gifts.

If Thorling School's real nature were gravely suspected, its loss of accreditation would be the least of its worries. Public school officials would scream with gleeful alarm until they stirred up a full-scale witchhunt. And the public itself, long plagued to the point of surliness by educational quackery and soaring school costs, would probably be quick in making Thorling School a sacrificial goat.

In brief, Thorling School existed on a razor's edge, and the accreditation inspectors would be in a position to topple it if they could find a minimal amount of solid leverage . . . anything to justify their vague suspicions. But, if Royster could say the right things, and the children played their roles . . .

"Don't worry about that, Mr. Royster," said Arthur. "Us kids're with you all the way—except maybe a couple of new soreheads and the old perfectioners—perfectionists. An' they won't get out of line, either."

"Thanks, Arthur," Royster responded.

They came out of the stairwell into the first floor hall. Arthur murmured, "Everybody's got the word."

Two of the team members, a man about Royster's age and an angular woman in her fifties, were in the main hall, each peering through the glass panel of a classroom door. Royster recognized neither of them as he approached. Roddy Linker, the student hall monitor, was at his desk unconcernedly reading his biology textbook. He glanced up and gave the headmaster a conspiratorial wink, then returned to his book.

Royster reached the woman first and said rather loudly, "Good morning, madam. Can I help you?"

Both she and the man, who was at the next door down the hall, jumped and spun around. She recovered her composure quickly and drew her head up and back, as if confronted by a distasteful odor.

"Are you Judson Royster?" she barked.

"Yes, I'm Mr. Royster, madam."

"Why weren't you in your office, Royster?" she demanded.

"Duties elsewhere in the building. Sorry to have kept you waiting, madam. The hall monitor should have let me know through the intercom that I had visitors." He gave young Roddy a reproving glance. "What can I do for you?"

She fumbled in her garishly beaded handbag and drew out an official card. "I am Dr. Phyllis Ross, of the Inspections Division of the State Department of Public Instruction." She held the card out so he could read it with a little peering but could not touch it. "My colleague here is

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Dr. J. Mercer Stilly, who has our documents." The man walked up, gravely shook hands with Royster, and gave him a stiff, folded paper.

"And this is the third member of our team, Mr. Donnelly McNear," Dr. Ross continued, pointing to a rotund, baby-faced young man who was emerging from the school office.

Looking very much at a loss, Royster said, "I'm very happy to meet all of you, Dr. Ross, Dr. Stilly, Mr. McNear. I suppose this is a building-safety inspection, isn't it? You'll find everything in good order, and I'll welcome your professional advice on a few proposed alterations—"

"We're not safety inspectors!" broke in McNear in an insulted tone. "That paper tells who we are!"

Royster unfolded the paper, stared at it, and looked up with a dazed expression. "Accreditation? There must have been a mix-up somewhere, I'm afraid. We've not received notice that you were coming, and don't have any of the special reports prepared! Could it be that . . ." He peered at the paper again and went on weakly, "No, it says Thorling School, all right, and the date's correct. But those special reports I should have ready . . ."

"Never mind the reports, Royster," Dr. Ross said brusquely. "Send the paperwork in later. We're here to see what's going on for ourselves, not to read what you *say* is going on! And I still want a satisfactory explanation as to why your office was left unattended!"

"Yes, madam. Our funds are insufficient to pay a receptionist without reducing our teaching staff. There is only Miss Smith, who is my assistant and who also handles much of the secretarial work, in addition to myself. Sometimes we both have to be out of the office at the same time, particularly when new pupils are being enrolled as two were this morning.

"However, we always make sure a monitor of demonstrated dependability is on duty in the front hall when both of us must be out." He looked at Roddy Linker again and said to the inspectors, "If you will pardon me a moment, I should have a word with that young man."

He walked over to the monitor's desk and the team followed closely behind him. "Roddy," he said sternly, "you know very well that you are supposed to inform Miss Smith or myself when we have visitors!"

Roddy's lips puckered angrily and his eyes swept the four adults with a glower. "They said not to," he grunted churlishly.

"*Who* said not to?" Royster demanded.

"Them," Roddy replied, pointing to Dr. Ross and McNear. "That woman and that guy."

"That *lady* and that *gentleman*," Royster corrected him.

Roddy shrugged and said indifferently, "You're the boss."

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Royster thought in dismay: *What's Roddy trying to do to us!*

"The young scoundrel is lying!" snapped Dr. Ross.

"In his teeth!" supplemented McNear. "We said no such thing! Really, Royster, if your establishment is producing such dishonest ruffians as *this* . . ."

Helplessly Royster looked at Dr. Stilly, who was listening with an unhappy frown but who showed no inclination to speak. It was a hopeless situation—the word of one boy, and a problem boy at that, against two or maybe three responsible adults. "Roddy," he began.

"Gosh, Mr. Royster," said Roddy, in a changed tone and plainly in retreat, "I didn't mean to lie! That's what I thought they told me!"

"Nonsense!" yapped Dr. Ross. "We said nothing that the dimmest child in the state could misinterpret in that manner!"

Roddy was fumbling for something under his desk. "If you say so, ma'm," he said apologetically, "I guess you're right. What was really said," he finished, lifting a tape recorder onto the desk and rapidly flicking its buttons, "was *this!*"

The recorder come on loud and clear with Roddy's voice:

" 'Good morning. Who did you wish to see?'

"McNear's unmistakable, high-pitched voice: 'Nobody in particular.'

"Roddy: 'Just a moment, please, and I'll call Mr. Royster.'

"Dr. Ross: 'That won't be necessary, young man. Return to your seat.'

"Roddy: "But Mr. Royster said I'm supposed—'

"McNear: 'And the lady said that won't be necessary!'

"Roddy: 'But when visitors come, he wants to—'

"Dr. Ross: 'We're not mere visitors, boy! We're here on business! Now get on with your book!'

"Roddy: 'Yes, ma'm.' "

He switched off the recorder and looked up innocently. To Royster he said, "I guess they didn't say not to call you, after all, sir. At least not in those exact words."

Royster was fighting to stifle a guffaw of sheer relief—and no little admiration. He was glad the inspectors were staring at Roddy, as if the boy were a rattlesnake who had just depleted his venom supply into their veins, and weren't noticing him.

As soon as he had himself under control, Royster said brightly, "Roddy is quite an enthusiast of speech identification patterns—you know, those photographs of vocal vibrations that are used somewhat like fingerprints. He makes himself a minor nuisance with that recorder of his, gathering samples of visitors' voices to study. How many adults do you have so far, Roddy?"

"Twenty-seven, counting these three. But none of these said 'Good morning,' and those are the words I'm using in my comparative study."

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"I'm sure they'll be happy to oblige, won't you, folks?" Royster said, turning to the inspectors. "Will each of you say 'Good morning' for Roddy's recording?"

Dr. Stilly said with a wry smile, "That's a very educational project you're undertaking, young man. I'll be glad to contribute. Good morning." He looked expectantly at McNear.

"Good morning," McNear sang tonelessly.

"Good morning!" Dr. Ross snapped impatiently. "Now let's quit wasting time and get on with the inspection!"

"Very well," Royster said, talking fast and glibly. "I suggest we start with the dormitories, on the upper floors, and work our way systematically to the basement." He moved away slightly, as if to lead the way to the stairwell, but none of the others showed any intention of following him, so he edged back, still talking. "As I'm sure you know, most of our youngsters are boarding students from all sections of the state. The top floor has been converted into living quarters for the boys, the second floor for the girls, and the first floor and basement rooms for classes. Fortunately, this is a big if rather old building, and—"

"We'll start with the classrooms, if you please," Dr. Ross ruled coldly.

"Those in the basement," added McNear.

Royster looked blankly at them a moment, then said, "Very well" with a nervous chuckle. "I can appreciate the fact that, for an accreditation inspection, the actual classroom work is your foremost consideration."

"Precisely," said Dr. Ross. "So let's not just stand here all day!"

As Royster led the way with apparent reluctance, the visitors became increasingly aware of the glum-looking urchin who was dogging the headmaster's footsteps. After a whispered conference with Dr. Ross, McNear asked, "Why is this young man following you, Royster?"

The headmaster started to answer, then paused, not at all satisfied with the explanation he meant to offer for Arthur's presence. The boy cleared his throat and Royster peered down at him.

"Suppose you answer our visitor's question, Arthur," he said. (After all, the boy had access to several dozen imaginative young brains.)

"It's 'cause I misbehaved," said Arthur.

"This is your punishment?" asked McNear.

"No, sir. This is so Mr. Royster can watch me while he decides what to do to me."

"This strikes me as a most unusual procedure," Dr. Ross commented disapprovingly.

"Oh, no, ma'm," said Arthur. "Mr. Royster does this all the time. It ain't unusual."

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"It 'isn't' unusual, Arthur," Royster corrected mildly, wondering what this was leading to.

"Really, Royster," the woman said, "such a display of hesitancy concerning a simple disciplinary matter shows a lack of decisiveness scarcely fitting for a headmaster!"

"Am I indecisive, Arthur?" asked Royster.

"No, sir, it ain't . . ."

"Isn't!"

". . . It isn't that." The boy looked up at Dr. Ross. "The reason he waits for an hour or two is so I'll know he's thinkin' over what I did, because he thinks I'm important enough to think about."

Royster got the drift and put in a pious aside to the inspectors, "So many of our children's problems were intensified by angry and impatient parents . . ." He shook his head sadly.

"But couldn't the boy do his waiting in his classroom?" asked Dr. Stilly. "This procedure interrupts his work schedule for hours!"

"That's correct, Dr. Stilly," said Royster, "and in the regular school situation this practice would be unjustifiable. But here at Thorling, as you know, behavioral problems have to be given a high priority. If Arthur were in his class, waiting with mounting dread to hear my decision, imagining me increasingly as a vengeful ogre, and perhaps misbehaving again out of boyish bravado, the effect on him would be far from salutary. But if he's actually with me, he's constantly aware of me as I really am, and of my desire to help, rather than injure, him. You'd be surprised at the gracefulness with which the children accept a penalty when they know I have given it hours of thought."

"Arthur," Dr. Ross said sweetly, "do you even go to the bathroom with your headmaster?"

"Yes'm."

"And are girl students punished in this manner, too?"

"Yes'm. Miss Smith had Hazel Petrov with her most all yesterday afternoon, ma'm."

Dr. Ross grunted in disappointment.

Royster led the way along the basement hall. Thorling School had originally been built, back in the late 1920s, as a public school to consolidate some two dozen of the old rural one-roomers in that area of the county. When enrollment began to mount after World War II, the penny-pinching county fathers decreed that the overflow of students be handled not by the construction of expensive new wings, nor of entire new schools, but by digging out new rooms under the old buildings. The resulting classrooms might have looked dismally shoddy, with their tangle of pipes a foot below the ceiling and their haphazardly located support beams and posts, but they served their purpose for a while.

But finally enrollment pressure reached the point where an all-out

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program of new-school construction was unavoidable—and the new schools made the old "substandard" by comparison. Naturally, every tax-paying citizen was soon demanding that his Johnny have as pleasant a school to attend as the next kid, and it became expedient to build still more new schools and to abandon the old.

The J. V. Thorling Foundation had purchased this building for not many more dollars than it had cost originally. The boxy, red-brick structure was old, and not considered handsome, but it was sturdy. And after a thorough repair and renovation of the interior, it proved quite satisfactory to its new users.

And the state education officials made no fuss about the fact that the building was "substandard." So long as the big sign facing the highway made it plain that Thorling was a privately-operated institution, public officials seemed to feel that the shoddier it looked the better.

Thus Royster chattered extensively about the building's shortcomings, poor-mouthing and apologizing over them, as he led the inspectors about. He knew that the quality of housing was a definite factor in the accreditation process—but he knew as well that the members of this team definitely were not interested in finding fault with the building.

They were more inclined to gaze with studious frowns through the little glass-door panels of classrooms and poke their heads in storage closets, evidently in hope of discovering disorderly or illicit activity. They accepted Royster's explanation of the room in which Miss Smith's experiment with Stevie and David had been conducted—that it was a room in which visiting parents could chat with their children. The adjacent observation booth would have passed, with its lights on to blank out the scene through the one-way mirror, as unused storage space, but the inspectors did not notice it at all.

"I'm sure you've observed that we made some use of programmed instruction in our classes," Royster remarked, "but haven't gone to it fully by any means. About half of the classrooms are equipped with the program machines. We find them excellent, of course, for the teaching of all subjects once the basic learning skills are acquired."

"Then why not adopt them more fully?" asked Dr. Stilly.

"Mainly to keep the children functioning, as much as possible, as members of groups—that is, as cooperating participants in a class discussion, et cetera. When a child is using a PI machine, he is isolated, without social contact. For our purposes, which as you know are to help the children surmount behavioral difficulties as well as provide a rounded educational experience, too much time in isolation is undesirable."

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How much easier it would be, thought Royster, who was getting tired of chattering at the increasingly grumpy visitors, to tell them the truth in a very few words—that PI is about the only way to be sure that a telepathic pupil is actually learning a subject instead of picking up answers, as needed, from the minds of teachers or other students, while the ordinary, old-fashioned classroom setup is ideal for the development of ESP skills.

The group returned to the first floor and the inspectors fanned out immediately to gaze into three classrooms. Arthur took the opportunity to hiss a message to the headmaster.

"Stilly's completely snowed, Mr. Royster, but Fat Stuff and the old biddy are still on the prowl. Don't worry, though. Just get 'em into Mrs. Morelli's room!"

Royster nodded, wondering giddily who was actually running this school.

"You are, sir," Arthur hissed promptly, "but in an emerging situation like this, it's fun for us to help out."

"Emergency situation," Royster corrected automatically, and a little too loudly.

"What's that you said?" McNear snapped sharply, rejoining him.

"Oh, Arthur was saying he has to go to the bathroom. He said it was an 'emerging situation' and I was correcting him."

McNear guffawed shrilly.

Royster frowned and said to Arthur, "Well, run along, but be back in three minutes. We'll be at Mrs. Morelli's room."

"Who's Mrs. Morelli?" asked Stilly as they walked down the hall.

"She's the music teacher. We emphasize vocal music here, because the children seem to come out of their shells so readily in the process of joint creativity of beautiful harmonies. We start part-singing at the kindergarten level. It's a wonderful social experience for the children—and an aesthetic experience as well, of course."

They reached Mrs. Morelli's room, and Royster opened the door, just as the children were finishing a marching song.

"Really, Royster," protested Dr. Ross, "we haven't the time to waste listening to . . ."

Her voice trailed off as the children's voices rose again—very softly and sweetly this time:

"Soft as the voice of an angel,
Breathing a lesson unheard,
Hope with a gentle persuasion
Whispers her comforting words
Wait, till the darkness is over,
Wait, till the tempest is done,
Hope for the sunshine tomorrow,
After the shower is gone."

Dr. Ross had edged through the door to stand facing the singing children, who seemed to be unaware of her and the other inspectors who followed her quietly. Mrs. Morelli looked up curiously from the piano

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but didn't stop playing as the children sang the chorus:

"Whispering Hope, oh how welcome thy voice,
Making my heart in its sorrow rejoice."

"Oh my!" Dr. Ross said numbly. "Oh my!"

Royster, who was himself seldom untouched by that old song's tender simplicity, said, "The children love that piece. It has a message for a troubled boy or girl."

"I could listen to it forever," breathed Dr. Ross. "I haven't heard it for years, but when I was a child . . . I've never heard it sung more beautifully!"

"Perhaps Mrs. Morelli has it on tape," said Royster. He introduced the inspectors to the teacher and asked her if she had taped "Whispering Hope."

"Why, yes," she said.

"Let's make a present of it to Dr. Ross," said Royster.

Mrs. Morelli got a small spool from her desk and handed it to the other woman. "Oh, I'll cherish this!" Dr. Ross crooned. "Thank you, Mrs. Morelli, and you, Mr. Royster. And thank *you*, children!"

McNear, who had been leaning his considerable weight against the door frame, looking bored and annoyed, spoke up. "Who plays the fiddle?" he asked, nodding to a violin case in the corner of the room.

"I do!" piped up Sandylou, a chubby, confident seven-year-old. "Shall I play for you?" She headed for the violin case without waiting for an answer, but suddenly whirled to glare angrily at her classmates. "I *will* play, too!" she shouted at them.

Something was going wrong, Royster realized. The class didn't want Sandylou to play for some reason, but the girl was only slightly telepathic and could not understand the *Don't!* she was receiving from the others. Her ESP capabilities were strong in the kinetics realm, but . . .

Of course! That was the trouble! She played the violin mostly with her fingers, but sometimes she used a mental touch to produce a harmonic, which did not require that the string be pressed against the fingerboard but merely touched at a vibrational node to damp the fundamental tone while allowing the whispery overtone to sound. Since the principal node is at one-half the string's length—high up on the fingerboard for a beginning violinist—Sandylou's mental touches made it possible for her to avoid long, quick reaches for harmonics, and thus enabled her to play selections that would otherwise be beyond her technique.

To the nonmusician, with no exact knowledge of violin techniques, Sandylou's playing would appear extraordinary only in the sense that it was extremely advanced for a child her age. Royster himself had not known, until Mrs. Morelli told him, that the girl was ESPing her

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harmonics. But someone who *knew* the instrument . . . !

"Do any of you play the violin?" he asked the inspectors.

"Yeah, I used to play quite a bit," grunted McNear, "but I didn't intend to launch a student recital! We're not here to spend the morning listening to musical trivialities!"

This brought a glare from his female colleague, who was still clutching her tape spool as if it were a precious jewel.

"Thank you for offering to play for us, Sandylou," said Royster, "but our guests are in a hurry today and—"

"I'll play something short, and fast," replied the girl, who already had the violin under her chin and was tightening the bow hairs. "And it won't be no triviality. It's a Wohlfahrt *study!*"

She dug into a piece that consisted mostly of ascending arpeggios, almost every one of which had a harmonic at its summit. Royster, Mrs. Morelli, and the class watched in numb, helpless silence as one pure, unexplainable note after another flowed from the instrument. McNear, his head lowered slightly and his lips puckered critically, gazed at Sandylou through his eyebrows in deep concentration.

The music ended and McNear said, "Very good, little girl. Very good indeed! You'll be an accomplished musician one of these days if you practice hard. You have a . . . a sure touch."

"Shall we move on, folks?" Royster said hurriedly, sensing that the situation had been saved—but unable to guess how. He moved toward the door and saw Arthur waiting in the hall. The inspectors were busy taking their leave of Mrs. Morelli, so he stepped outside.

In a somewhat mystified tone, Arthur hissed to him, "Fat Stuff *saw* it, but he didn't *believe* it, so he didn't *see* it! Is he looney or something?"

After a moment, Royster nodded in understanding. McNear had responded to the inexplicable as people often do: he had ignored its existence. An excellent way to maintain sanity—provided the inexplicable does not become overpowering.

"Oh," said Arthur. "You've never thought much about that before. It'll help us stay a secret, won't it?"

"Don't depend on it," said Royster.

"You've got the old biddy and Fat Stuff now," Arthur reported, "but you've lost Stilly, and he's the top man. He feels like they're being had, because they ain't found nothing wrong anywhere. We're too perfect! He'll like Miss Smith, though."

Miss Smith? Royster thought as the inspectors came into the hall and Arthur fell silent. What has liking Miss Smith got to do with it?

He glanced at his watch and said, "Classes will change in a couple of minutes, and the first lunch period will start. What's your desire, folks? We can stay here and let you ob-

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serve the movement of the students through the hall, or we can get on with a tour of the dormitories, or we can go to the cafeteria for lunch, now or later."

"Whichever you think preferable, Mr. Royster," Dr. Ross said pleasantly.

"Lunch sounds fine to me," smiled McNear.

Dr. Stilly said, "We may look into the dormitories later, Mr. Royster, but that would serve no essential purpose of this inspection. As for lunch, I wonder if we could have that somewhere other than in the cafeteria? Do you have a conference room where we could confer with you while we eat, without being interrupted by children or other distractions?"

"Why, yes. There's a conference table in my office. Arthur, run down to the cafeteria and tell Mrs. Sams to send four regular trays, plus coffee, to my office . . . Make that five trays, Arthur. If we eat there, Miss Smith can join us."

Arthur counted noses and asked, "What about me, sir? Where do I eat?"

"Oh, I was forgetting you. Make that six trays."

Dr. Stilly frowned. "Don't you think, Royster, that we can dispense with this young man's company now? Surely, you've considered his case sufficiently . . ."

Royster blinked, then nodded. "Quite right, Dr. Stilly. Have your lunch in the cafeteria, Arthur, and return to your regular schedule. And report to the night room each evening this week for one hour of vocabulary PI."

"Yes, sir."

In the office Royster introduced the inspectors to Miss Smith. As Arthur had predicted, Dr. Stilly was visibly impressed by her, and Royster felt a pang of bitter annoyance at the friendly warmth with which Miss Smith responded. His assistant had never favored *him* with such a charming smile!

But if the kids had expected Stilly to develop an immediate, disarming crush on Barbara Smith, they were wrong. As soon as the trays were brought in and the group settled around the table, the inspector said:

"In going over your background, Mr. Royster, I noticed that you spent two years, after finishing college, with a parapsychology group. That struck me as very strange preparation for a headmaster."

There was no point in denying the record, which Stilly had apparently gone to some trouble to look into. "Yes, I became quite interested in parapsychology during college. I viewed it as one of our scientific *frontiers*." Royster chuckled wryly at the idea and continued, "I soon realized the parapsychology people were getting nowhere with their researches, of course."

"But you stayed two years," Stilly persisted.

"Yes. I became interested, while

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I was there, in the general problems of disturbed children. You may not know that such children are brought to the group quite frequently. Perhaps it is a complex some parents have—to see abnormal behavior in their children as an indication of abnormal, or paranormal, abilities. At any rate, I saw enough such children there to gain an appreciation of their problems, and left the group to do graduate work in special education. So, in a sense, you could say that those two years were responsible for me being in my present position."

All of which was the truth—the carefully edited truth.

Stilly ate for a moment in frowning silence, then remarked, "I understand those two years might have been responsible in more ways than one. Wasn't it while you were with the parapsychology people that you first met J.V. Thorling?"

"Yes, indeed," Royster said brightly. "Our late benefactor was quite a psi buff, as is fairly well known."

"He attributed his financial success to a freakish mental ability to foresee the future, didn't he?"

Royster laughed. "So the magazine articles about him said. From my own conversations with him, I got the impression he wasn't really sure of the source of his success. But he wondered about it, and therefore took some interest in parapsychology. We have to remember, though, that he had a fine head for finance, and I'm sure a more acceptable explanation of his accomplishments would be that he often could see the financial possibilities of a situation, through subconscious, but quite normal, mental processes, that were invisible to less capable minds."

"That doesn't explain why he chose to endow this school rather generously," Stilly frowned.

"That's no mystery," Royster shrugged. "When Mr. Thorling visited the parapsychology people he wasn't much impressed, and since I was something of a rebel there he talked with me quite a bit—to the annoyance of the group's brass, I might add. I told him about my plans, such as they were at the time, to work with children of above-average potential but suffering from severe behavioral defects. In the rarefied air of that group my ideas must have had a down-to-earth, constructive ring to Mr. Thorling. He became interested, and said if he could ever be of assistance to let him know. So, here we have Thorling School."

"From all this, then," said Stilly, "I take it that you no longer believe in parapsychology. Is that correct?"

Royster peered curiously at the inspector for a moment before replying, "I'm a rather conservative man, Dr. Stilly. I don't believe in getting something for nothing, and that's what parapsychology tries to do when you boil it down to the essentials. Man has to *work* for what

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he gets—for his food, for his knowledge, or to develop his skills. Now I try not to be prejudiced against parapsychologists, but I've seen enough of them to know that they are mostly of the visionary type, dreamers of dreams, not doers of jobs. They seem to expect to find some magic word that will bridge any gap in time and space, through telepathy, or teleportation, or some such, so they can manipulate the real world without exerting real energy. I certainly don't believe in magic, Dr. Stilly."

"I don't see what all this has to do with an accreditation inspection," yapped McNear rather crossly.

"Evidently it has nothing to do with it," said Stilly. "However, Mr. Royster had some crackpottist connections in the past, and if he still took such things seriously that would certainly reflect on his ability to direct the educational life of hundreds of children. But I find his explanations, and his present, more adult, view of parapsychology, quite satisfactory. Miss Smith, have you been with Thorling School any length of time?"

"Only four months, Dr. Stilly," she said, and the conversation drifted into less perilous waters.

After lunch the inspectors made a perfunctory tour through the dormitory floors, the cafeteria, and the gymnasium. Afterwards Royster walked out to their auto with them.

"An excellent job you're doing here, Mr. Royster," said Dr. Ross. "I was particularly impressed with the orderliness of activities in the classrooms. I really don't know quite how you do it, considering the backgrounds of your children."

"There are several factors involved," he responded. "A child coming here finds himself in a new environment, where he can make a fresh start. And as my written reports for earlier inspections have explained, and I'm sure you've read them, we try to let the child know where he stands with us, to make the rules perfectly clear to him—and above all to let him know we're on his side, that he can feel secure and loved. And understood. Fortunately, we have been able to bring together a faculty of sufficient size and ability to do the job. As in any school, success depends on the individual teacher."

"You'll see to it that that little violinist gets good training, Royster?" demanded McNear.

"Well, this is no conservatory, you realize," he replied, "and I must reemphasize the stress we place on proper personality and behavioral development. But you can rest assured, Mr. McNear, that Sandylou will be given ample opportunity to develop her special talents."

McNear nodded. "O.K. Just so you realize that she has something special." He climbed in the car with the others.

Royster smiled. "To us at Thorling, Mr. McNear," he said, *"all* of

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our children have something special."

"How true!" cooed Dr. Ross. "Good day, Mr. Royster, and thank you for an inspiring morning!"

Royster walked back in the building and, even though he could hear what sounded like a minor riot down the hall, he went into the office and sat down.

Miss Smith nodded toward the noise and said, "I don't have to ask if our visitors are gone."

"Yeah, back to normal," he said with a relieved sigh. "It's funny that I let things like that scare me, but I suppose I keep thinking of our kids as—just *kids*. I never realize what a help they can be in a pinch."

"I hear Sandylou almost gave the whole show away."

Royster nodded and lit a cigarette. "She had the kids upset for a moment there. Some of them looked as pale as I felt!"

"Can't something be done about that child?"

"The kids'll be working on her, never fear," Royster shrugged. "They can do more with her kind of problem than we can."

"It frightens me to think," Miss Smith shuddered, "what would have happened if that McNear slob hadn't been so stupid."

Royster nodded without replying. Miss Smith had been with the school less than half a year and—well, there were some things she just wasn't ready to know yet. For example, that the kids could have handled the McNear problem, if absolutely necessary, with selective mental erasure. It was a repulsive idea, to him as it was to the kids, and it would be too disgusting for Miss Smith to accept until the Thorling children became *her* children more fully.

"Well, I'd like to get back to my young gladiators as you call them," she said.

Royster looked up curiously.

"To Stevie and David," she explained. "That test might still work even though—"

"Miss Smith," Royster said, grinding out his cigarette, "I've gone along with you on your experiments so far, partly to let you learn for yourself that this age-old search for a mental Midas touch is a waste of time, because there are no shortcuts, and partly not to discourage creative thinking from you, and partly I guess just to keep you happy!

"But you've been here four months now, and you're still busily barking up the same old empty tree! How much longer is it going to take you to get this nonsense out of your system and turn your energies to our *real* problems?"

She stared at him in hurt astonishment. He would have felt ashamed of his outburst except for the tensions of the inspection and the way she had flirted with Dr. Stilly. His anger continued to boil.

"Well really, Mr. Royster," she

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snapped, her face turning red, "I see no need to shout! And I haven't been aware of neglecting my duties because of my interest in various experiments that, you must surely comprehend, can be conducted here more ideally than anywhere else in the world! If you're too stodgy to realize—"

"*Stodgy?*" barked Royster. "Is that what you think? Maybe you'd be happier doing something else—some*where* else! With livelier company! Maybe inspecting schools with your pal Stilly!"

"If you can't even have an argument like this without being ridiculous, maybe I *should* move along!" she flared. "Stilly indeed!"

"I saw you turn on the old charm for him!" replied Royster.

"Sure I did! The kids told me it would help!"

"Oh." He ought to have guessed that, he realized. His anger was suddenly gone. He said, "I'm sorry for jumping on you that way, Miss Smith. It was uncalled-for. Nerves, I guess . . . I have no objection, really, to you continuing that test with Stevie and David. So if you want to get on with it . . ."

She blinked a couple of times and turned toward her cubbyhole office. "No. I don't know. Maybe tomorrow . . ." She turned to face him again. "You really think it's a waste of time, don't you?"

He nodded glumly. "Yes, I do. But I don't know everything, after all, and had no business sounding off as if I did. I know that my own ideas work—today the kids proved just how well they've worked. But that doesn't make all other ideas worthless. So, if there's anything you want to try . . ."

"I . . . I don't think so." She sat down and propped her chin in her hand. "You're probably right, and it's high time I realized that. Maybe you had to yell at me to get through. ESP ability isn't a . . . a gift . . ."

"In a way it is," Royster said. "It's a gift in the sense that Sandylou's musicianship is a gift. But a gift is merely a capacity. Sandylou's doesn't automatically make her a great violinist, it just provides her with the capacity to *become* one—after several more years of hard work and practice. What would have happened to her gift if our society had no use for music, if the whole concept of music didn't exist? Not much of anything would have happened to it! Unless maybe it got her thrown in the loony-bin for making strange noises!

"That's what happens to ESP capacity, most of the time. A few people, like Old Man Thorling, manage to develop some primitive skill with it. But mostly, it just pops up, unexplainably and usually frighteningly, in moments of great emotional stress, and then it's gone again. It's an unrealized capacity because it isn't trained.

"That's what I decided while with the parapsychology group, working with the children brought there.

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Thorling agreed when I explained it to him. Take a child with ESP capacity, still young enough to have a pliable mind, let him know that ESP development is *desirable*, and figure out ways to train him to use his capacity. Encourage him to practice, practice, practice! Bring many such children together, so they can learn things from each other that we don't know to teach them! Children are eager to please, and to learn—and they'll work hard to do both!

"Now, as for shortcuts, some may exist. But I believe if they do they won't be discovered by you or me. The kids will find them! They have the knowledge and the skills that we'll never attain for ourselves. If Sandylou learns an improved violin technique, it will be from another fiddle player, not from a nonmusician. That's why I feel our job is to help the children develop themselves, in the only way we know how, and leave it to them to devise ways to build on their basic skills."

"One thing bothers me about this," said Miss Smith. "You keep referring to consciously-controlled ESP as a skill, and equating its development to other skills such as learning to play a violin. Yet, you say the learning has to start at a very tender age—in the kindergarten years if not sooner. But this isn't true of other skills! I know it helps for a child to start his musical training early, but many adults, starting with no musical training at all, learn to become adequate performers on some instrument. Now if ESP were really a skill, why couldn't you, or I, or some of the teachers develop some degree of it? All of us have tried, without the slightest result!"

Royster shook his head. "You're wrong, I think, when you speak of an adult learning to play an instrument with no early musical training at all. I don't think there *is* any such adult, for the simple reason that every person in our culture has *some* early musical training. From babyhood on we *hear* music, sung by our mothers, played on radios, and so on. And babies begin attempting to gurgle songs about the same time they are learning to talk. They experience music from the beginning. It's part of their lives. So no adult starts cold to learn an instrument. And there are similar parallels for any other skill you can name—except controlled ESP. Only in this school of ours does a child have a chance to grow up with ESP as an integral part of his daily experience. In fact, I think it's remarkable that they can start from scratch at the relatively advanced age of four or five, and still—"

Arthur appeared in the doorway. Royster broke off his conversation with Miss Smith and said, "Hi, Arthur. Thanks for the help this morning—thanks to *all* of you." The boy grinned his pleasure and looked down at his shoes as the headmaster

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continued, "What can I do for you?"

"About you tellin' me to do an hour of vocabulary PI every night, Mr. Royster—" Arthur began.

"That was just part of our act for the inspectors, Arthur," Royster smiled. "You can forget it."

"Oh, I *know* that, sir. What I wanted to tell you was that I guess I need that PI, so I'm goin' to do like you said, even if you didn't mean it."

Royster nodded approvingly.

The boy turned to leave and Royster recalled something he had meant to ask the boy about at the first opportunity. "Just a moment, Arthur. This morning you told me all the children were with me, except a couple of new 'soreheads' and some old 'perfectionists'. The new 'soreheads' I understand, of course. But what was that business about 'perfectionists'?"

Arthur looked uncomfortable, and glanced uncertainly from one of the adults to the other. "Well, it ain't . . . isn't much of anything, just some silly stuff the big girls like Jilly and them think about sometimes."

"Is it too silly to tell us about, Arthur?" Miss Smith smiled.

"Naw, it's just that . . . well, they don't like the way Mr. Royster keeps himself half mad at you all the time, Miss Smith, because he likes you a lot and thinks he shouldn't, or that he shouldn't even think about liking you with all of us kid telepaths around."

Royster stiffened with astonishment and was aware that his face was flaming red. It did not help his feelings to observe that Miss Smith appeared perfectly calm.

"Wh-what business of theirs is it if—" he sputtered.

"That's what *I* think," nodded Arthur, emphatically. "But you know how girls can act sometimes. And they think it's mean of you not to be nice to Miss Smith, because she likes you, too, and it makes her sad because she thinks you don't."

"I . . . see," said Royster.

"But this is a good place to be," Arthur went on hurriedly, "and they like you just the same. They just don't like the . . . the way you do with Miss Smith. That's why the rest of us call them perfectionists."

Royster nodded. "Thank you, Arthur," he said, and the boy beat a hasty retreat.

After a pause Barbara Smith said, "Really, Judson, there's no reason to behave like a priest around here if you don't think like one! To telepathic children, that's simply a form of hypocrisy."

"But I felt that in my position . . ." he mumbled.

"Nonsense! The children have teachers who are married. They are aware of such relationships." She peered at his face. "How did you develop such a straitlaced attitude toward love? Do you come from a puritannical family?"

"Certainly not! My parents were merely—conservative!"

She giggled and kept looking at him. Finally he smiled back. ■

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the reference library

P. Schuyler Miller

THE WINNERS

This is written shortly after returnees from the 1967 World Science Fiction Convention in New York gave me the results of the balloting for the annual "Hugo" awards, and after "Nebula Award Stories Two," edited by Brian W. Aldiss and Harry Harrison, made its appearance (Doubleday & Co., Garden City, N.Y.; 255 pp.; $4.95). The Nebula awards are made by the Science Fiction Writers of America; the Hugos are awarded by readers who sign up in advance as members of the World SF Convention.

This year's convention was the third to be held in New York and Analog had a good many more contenders in this year's finals than it has had recently . . . even in years when stories from the magazine—such as "Dune"—have won awards.

In the "Best Novel of 1966" category, the Hugo went to Robert A. Heinlein's "The Moon is a Harsh Mistress" while the Science Fiction Writers wound up with a tie: Daniel Keyes' "Flowers for Algernon" and Samuel R. Delany's "Babel-17". The Heinlein and Keyes books were almost disqualified by the Hugo committee because "Moon" had been a candidate as an *If* serial, before the book appeared, and "Algernon"—my own choice—had previously won a Hugo as best novelette. Randall Garrett's Analog serial, "Too Many Magicians," also got into the Hugo finals. The Heinlein name, the fact that the serial hadn't won, and the availability of a paperback edition probably helped put the book on top with the fans, but it was and is a good book.

There are currently two Hugo categories for short fiction—novelette and short story—and three in the SWFA Nebula awards—novella, novelette and short story. Jack Vance's story of a far-future Earth to which Man has returned, bringing strange races from the stars to serve and amuse him, "The Last Castle," won the Best Novelette Hugo and the Nebula novella award. It is consequently in the "Nebula Two" collection, and it's also in an Ace paperback, No. H-21, with "World of the Sleeper," by Tony Russell Wayman, on the flip side—price: 60 cents. Gordon Dickson's excellent "Call Him Lord" from Analog missed out in the fan vote but received Nebula award for best novelette of 1966. And Analog had Hugo finalists in Charles L. Harness' "The Alchemist" and "An

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Ornament to His Profession" and Nebula contender "Who Needs Insurance?" by Robin S. Scott. Since the SFWA editors round out their award anthologies with what they consider the best among the runners-up, you'll find Scott's story in the Nebula collection, and in other anthologies. To me, it seems very close to fantasy.

An excellent "hard science" yarn, Larry Niven's "Neutron Star," won the short story Hugo, however. It takes me back to the days when George O. Smith, Ross Rocklynne and others were writing this kind of *science* fiction for Astounding. The Nebula short story award went to Richard McKenna's "The Secret Place," an excellent time-shift story which Damon Knight had in his first anthology of previously unpublished stories, "Orbit I." I *think* I'd have given the edge to Bob Shaw's remarkable "Light of Other Days" from Analog, a Ballard-like story that is in the Nebula collection as a runner-up and was also a Hugo finalist. Raymond F. Jones' "Rat Race" from Analog also got into the Hugo short-story finals.

Purely for lack of space, I haven't listed all the other finalists or identified their sources. However, the "Nebula Two" collection also gives you Frederik Pohl's "Day Million," which seems better every time you reread it and should certainly have been a Hugo contender; Brian W. Aldiss' "Man in His Time," which was, Philip K. Dick's "We Can Remember It for You Wholesale" (not up to his own standards); R. A. Lafferty's "Among the Hairy Earthmen," a cruel little bit with a whiff of "Cordwainer Smith" about it; Sonya Dorman's moving "When I Was Miss Dow," and George Henry Smith's "In the Imagicon," an effective switch-ending yarn. Aldiss and Harrison report that '66 was a poor year in SF, but to my taste "Nebula Two" is a better selection than the first award collection.

To round off the Hugo report, *If* was voted best magazine (*Fantasy & Science Fiction* was ruled out, since two of its staff were convention officers). Jack Gaughan took matched rockets as "Best Professional Artist" and "Best Fan Artist"—slightly inconsistent from this distance. To avoid the situation of one good TV program which every fan watches automatically eliminating good films or plays that most of them never see, single programs in the principal series were nominated and three "Star Trek" episodes made the final list. "The Menagerie" won. Two films—"Fantastic Voyage" and "Fahrenheit 451"—got into the finals and might have won against other competition. The first, though, was a triumph of special effects over content, and it had had a special award in Cleveland the year before. "Fahrenheit" is magnificent, but cerebral rather than moving.

To be complete, a fanzine named

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"Niekus," edited and published by Ed Meskys, took the Hugo from such perennials as Robert and Juanita Coulson's "Yandro" and Bill Donaho's "Habakkuk," Leland Sapiro's Canadian "Riverside Review," and the excellent new "Australian Science Fiction Review," edited by John Bangsund. Alexei Panshin got a new award as best fan writer.

And First Fandom—the fans who are not only over thirty but were reading SF thirty years ago, and consequently aren't to be trusted—gave their Hall of Fame award to a writer who I considered my own favorite more than forty years ago. Edmund Hamilton.

THE MEN IN THE JUNGLE
By Norman Spinrad • Doubleday & Co., Garden City, N.Y. • 1967 • 240 pp. • $4.50

This book isn't science fiction's first experiment with the currently fashionable anti-hero—we fumbled with the idea thirty years and more ago, mainly for shock effect and to be different. It is by long odds the most violent, brutal book the genre has produced. You can hardly like it or the people in it, with the possible exception of the lusty, loyal Sophia O'Hara. You probably will be carried along by it, if you don't throw it down in disgust.

Bart Fraden is the cynical ex-president of the Belt Free State, the rich asteroid mining colony that he ran for his own benefit and that was eventually taken over by the more powerful and equally ruthless crooks of the Confederated States of Terra. He fled the belt with Sophia, his mistress, Wilhelm Vanderling, his military chief, and a powerful ship crammed with drugs with which he proposed to buy or win himself a more remote planet on which to live high and hard.

Fraden's error was to select as his target the hell hole of the Galaxy: a world called Sangre, cruelly ruled by the fanatic Brotherhood of Pain. These inbred, sadistic degenerates breed human beings for food, beautiful women as slaves, the Killers as a state police, the human Animals of their estates to work and generate food stock. An insectlike race has been trained and tricked into growing vegetable foods for the slave caste; only the Brothers, the Killers, and their current toys enjoy the delicacy of fat roast children.

Fraden's plan is to drive the Animals to revolt . . . then take over as leader of the revolution, and wind up master of the planet. He uses his drug cargo craftily and callously to hook the Brotherhood, to get himself initiated into the inner circle, and then to inviegle the Brothers into greater and greater excesses of brutality and debauchery, so that the slaves will be forced to the breaking point. Meanwhile, in the jungle, with still other drugs, Vanderling is building and training the nucleus of their guerrilla force . . . and becoming more and more

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similar to a Brother every day.

If there is to be a school of "black" science fiction to match the black comedies and tragedies of current fashionable literature, this book has gone straight to the graduate level.

THE KILLER THING

By Kate Wilhelm • Doubleday & Co., Garden City, N.Y. • 1967 • 190 pp. • $3.95

This is an ambitious book that just misses being impressive. Nominally, the Killer Thing of the title is a tremendously powerful robot—much like the Berserker machines of the Saberhagen stories—that escapes from the cruelly exploited colonial world where it was created and bludgeons and burns its ruthless way across space, warring against men. It is a robot that was given a drive to self-protection without ever having had a prime directive . . . an Asimov robot with the First Law left out of its program . . . and whatever threatens to restrict it must be opposed and destroyed.

The story of its scourging march across space is told in a series of flashbacks, as the robot hunts down the last survivor of a task force sent to destroy it, and as Captain Ellender Tracy of the World Group Army tried to trap it before it kills him. This has the advantage of allowing the mature Tracy to look back on the experiences of his younger days, but it slows down the movement of the book—sometimes to a crawl.

I think, too, that it weakens the development of the book's real meaning. For we slowly realize that the actual "Killer Thing" is Mankind, whose ruthless, cynical exploitation of the Galaxy and its native peoples is far more cruel than the helpless robot's automatic carnage. I don't know Kate Wilhelm's philosophy or politics, but if you choose to find a third meaning in her book—a commentary on what we are doing in Vietnam and elsewhere in the world, because we are as helplessly driven as the World Group or the killer robot—by all means do so. Her book isn't a tract: it's a lesson and a warning.

THE TIME HOPPERS

By Robert Silverberg • Doubleday & Co., Garden City, N.Y. • 1967 • 182 pp. • $3.95

Robert Silverberg's series of excellent factual books for high school ages and older may be earning him enough so that he no longer has to produce science fiction as tirelessly as Edgar Wallace—or in our day, Carter Brown—ground out mystery thrillers. Be that as it may, his stories are getting better and better.

Joseph Quellen, crime stopper of A.D. 2490, isn't quite a Maigret or a Vander Valk, but he is a man at war with his society at the same time that he fights those who war against it. It is a crammed and straitjacketed society in which Quellen has illegally stolen himself the privacy and elbow room that

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are restricted to the upper hierarchy . . . and in which a growing number of people are somehow escaping through time into the past.

To prevent this lese majesty . . . to save face . . . to gain control of the time-hopping device . . . and for other tangled motives, the lords of Quellen's bureaucracy order him to find and destroy the perpetrators of the outrage. He finds them . . . and he finds that they have teeth. They can fight back with the weapon of his particular in-world: status destruction—blackmail.

And they do. Quellen the victimizer becomes Quellen the victim. The cannibal society is quick to devour those who have fed it.

WORLD'S BEST SCIENCE FICTION: 1967

Edited by Donald A. Wollheim and Terry Carr • Ace Books, New York • No. A-10 • 285 pp. • 75¢

Although this excellent annual collection doesn't cover quite as much of the world as the last one, it does show the English magazine *New Worlds*—recently rescued by a government grant—as the new leader in developing serious science fiction in the English-speaking world.

Two of the twelve stories in the book, Bob Shaw's "Light of Other Days" with its unforgettable concept of "slow glass" and its achingly real human problem, and Paul Ash's amusing time-travel yarn, "The Wings of a Bat" (remember the pteranodon on the yellow cover?) are from Analog.

By all odds the most striking and controversial story in the collection is Michael Moorcock's "Behold the Man" from *New Worlds,* a tragic story of a time traveler who went to unravel the truth about the historic Christ. Brian Aldiss' "Amen and Out," from the same magazine, is a black comedy of immortality. Roger Zelazny is there twice: with "The Keys to December," which shows a touch of the Cordwainer Smith flavor as it shows how a lonely and despised creature on a cold hell of a world becomes a god, and the utterly different "For a Breath I Tarry," in which robots try to recreate Man and the knowledge of Man. This author never repeats himself.

Avram Davidson's gothic humor is at its richest and most grotesque in "Bumberboom," the story of a future in which the Middle Ages of Rabelais have come upon us again. Frederik Pohl has a satire of sex stories to end the genre in "Day Million" from *Rogue.* Philip K. Dick's "We Can Rember It for You Wholesale" is an intricately plotted story of synthetic memories, like "Bumberboom" from *F&SF.*

If is well represented this year. R. A. Lafferty's "Nine Hundred Grandmothers" is a delightful tease and A. A. Walde's "Bircher" an absorbing story of future police problems. And it has contributed the shortest story in the issue, a snap-

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ender like the ones Fredric Brown used to write, in Dannie Plachta's "The Man from When."

It's a winner all the way.

THE BLUE WORLD

By Jack Vance • Ballantine Books, New York • No. U2169 • 190 pp. • 50¢

Here is a book with an unusual, well-developed setting and situation that just misses being very good; I wouldn't care to have to say why.

Generations in the past a convict ship, bound for a penal planet in an analog to the settling of Australia, has been wrecked on a world without dry land. Instead of continents and islands there are the floats—gigantic growths, rooted in the sea bottom and spreading a pad of tough, luxuriant fruiting vegetation on the surface rather like the floating islands of C. S. Lewis's "Perelandra." Here, in some twelve generations, the survivors of the wreck have evolved a fully adapted parasitic or symbiotic marine culture without stone or metals——though somehow with fire.

Though they can live well enough off the flora and fauna of the sea world, the people of the Floats are at the mercy of the kragens—gigantic squid (or kraken)-like sea monsters that prey on their sponge arbors, their fish flocks, and occasionally on them. Through the generations, one caste in the multi-leveled society has developed a technique of communicating with the hugest of the monsters, "King Kragen." Almost a deity, it is summoned to deal with lesser predators when they appear, and takes tribute in kind.

Then in this frozen society there arises a dissident, a boat-rocker, who sees no reason why men should not fight back and why even King Kragen cannot be killed. The story is his struggle against the conservatism of his fellow men and against King Kragen. Unfortunately, "what happens next" is totally predictable from page to page: to this extent the story is written to formula, and it suffers in consequence. Too bad.

DESIGNING THE FUTURE, THE ROLE OF TECHNOLOGICAL FORECASTING

By Robert W. Prehoda • Chilton Book Company, New York • 310 pages • $8.50 • Reviewed by G. Harry Stine

The May 1961 issue of *Analog* carried an article by me entitled, "Science Fiction Is Too Conservative." It was intended to give a hard jolt to both s-f writers and readers. But it did more than that. The article had much greater impact outside s-f and was partly responsible for kicking off the new field of technological forecasting. In the ensuing years, s-f writers desiring to find out more about technological forecasting (T/F) have had to wrestle with the job of getting various government, private, and foreign reports

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and study documents; a pesky task at least and a nearly impossible one in some instances. Now, however, Prehoda's book is available, and it should provide a manna of story ideas and background for good scientific speculative fiction.

"Designing The Future" is perhaps an improper title, because the future can only be forecast—then it happens or doesn't happen as forecast because of a variety of reasons. But Prehoda has looked into a number of possible future capabilities in the book and, in some instances, has considered the interface between the technological capability and the economic and social arenas in which it is likely to have the greatest impact. A brief look at the Table of Contents will reveal the broad scope of the book: Definition of Technological Forecasting, Automation Unemployment and Research, Lead Time and Technology Transfer, Improved Educational Options, Improved Metals and Materials, Future Sources of Raw Materials, Biomedical Research, Human Hibernation, and finally Matter, Mind and Meaning.

Many of the subjects discussed by Prehoda will be old-hat to some s-f writers and fans, but the pace of today's research has uncovered many new areas that Prehoda writes well and understandably about. Some of these haven't been touched by s-f yet.

Prehoda himself has considerable background in modern aerospace technology as well as the more mundane industrial research and development. He knows what he is talking about. It will surprise no one to learn that he is an old s-f buff who is trying to revive the old Flash Gordon material as a sideline. He is currently involved in research in human hibernation in addition to being a consultant in T/F.

But it may come as a surprise to s-f fans to learn that T/F developed out of s-f and acknowledges this historical genesis. You will find many references to the T/F pioneering of some of the s-f writers. However, T/F has blossomed into a full-fledged planning field in its own right, taking its place alongside such other forecasting areas as finance, production, marketing, et cetera. And it has developed a quite thorough and rigorous methodology, and it is being utilized by both government and industry.

T/F has now come full circle and is ready to feed back into s-f some of the ideas it has developed during the past decade. The results of this are likely to be quite significant in the development of s-f henceforth. "Designing The Future" belongs in the library of every s-f writer and editor because it is an oustanding, well written, thoroughly researched book about the possible futures ahead of us. It is as exciting as a Doc Smith yarn or a Heinlein novel, even more so because it is *not* fiction but a serious look at the future.

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THE REPRINT SHELF

EDGE OF TIME

By David Grinnell • Ace Books, New York • No. M-162 • 143 pp. • 45¢

A reissue of the pb edition of one of Avalon's better books, about an attempt to learn the laws and course of galactic history by creating a miniature universe where our creation will be duplicated at accelerated speed.

THE IF READER OF SCIENCE FICTION

Edited by Frederik Pohl • Ace Books, New York • No. H-19 • 220 pp. • 60¢

The paperback edition of the first in a new series of proprietal anthologies. It includes Fritz Leiber's wonderful chess story, "The 64-Square Madhouse," the first in a new series by A. E. Van Vogt, "The Silkie," a Retief story by Keith Laumer, a "Berserker" yarn by Fred Saberhagen, and other representative bits from *If*.

YOU SHALL KNOW THEM

By Vercors • Popular Library, New York • No. 60-2202 • 191 pp. • 60¢

The original title has been restored to this cynical and biting story of the political and ethical battle over a newly discovered race of sub-humans. The previous pb edition was degraded into "Murder of the Missing Link," if I recall.

RETIEF'S WAR

By Keith Laumer • Berkley Books, New York • No. X-1427 • 175 pp. • 60¢

WORLDS OF THE IMPERIUM

By Keith Laumer • Ace Books, New York • No. M-165 • 133 pp. • 45¢

The pb edition of the only full-length Retief yarn to date, with our diplomatic trouble-shooter disguised as an insect-man. The illustrations haven't been reproduced: pity. From Ace, a reissue of the grand 1962er of parallel time tracks. A quote on the back says I liked it. I did—and do.

FROOMB!

By John Lymington • Macfadden Books, New York • No. 60-287 • 224 pp. • 60¢

A strange one, with a hero who thinks he has been electronically transmitted to Heaven, comes to feel that he may have landed in Hell instead, and may only have traveled in Time. The title isn't from "Batman": it's short for "Fluid's running out of my brakes."

THE UNIVERSE BETWEEN

By Alan E. Nourse • Paperback Library, New York • No. 52-462 • 160 pp. • 50¢

The original parts were here in Analog—then Astounding—back in 1951. McKay published it a few years ago as a juvenile. It's a good parallel worlds story that anyone can enjoy.

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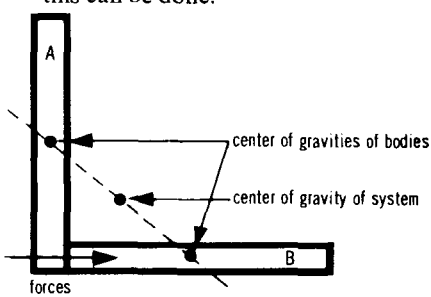
brass tacks

Dear Mr. Campbell:

I have discovered that it is possible to break the Law of Conservation of Momentum without breaking the three Laws of Motion. I have enclosed a problem and its solution in order to illustrate how this can be done.



Consider two rod-shaped bodies, A and B, of equal mass arranged in an "L"-shaped pattern as in the figure. Allow equal, opposite and colinear forces to be exerted momentarily between the two bodies, such that the force on body B passes through the center of gravity of body B and the force of body A passes through the end of body A, and not through the center of gravity. The manifestation of the force on body B is a linear acceleration; that on body A is a linear and rotational acceleration. Furthermore, the resulting linear velocity of body A is less than that of body B. Using the fact that the center of gravity of the system is halfway between the center of gravities of bodies A & B, and the fact that B is moving faster than A, it can be seen that the system has undergone a linear acceleration.

Would you be interested in an article on this subject for your magazine?

WILLIAM J. YAPP

305 East John
Champaign, Illinois

O. K. readers! Here's the challenge, what's your answer?

Dear Mr. Campbell:

By the time you get this letter you will have probably heard of the newest fad among the "hip"; inhaling the fumes from an aerosol can of cocktail-glass chiller to go on a "trip." Many practicers of this fad have gone on a trip to the nearest hospital and a few of them have even gone further, to the nearest mortuary. Since the freon-12 gas

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used in these handy little devices—the labels on the cans read "harmless and nontoxic"—has almost the same make up as the fluorocarbon gas used in refrigerators, Mr. Taylor (Brass Tacks, September 1967) might have a case on his hands. It's amazing how many household products labeled "harmless and nontoxic" can become exactly the opposite when ingenious teenagers —myself included—start to think about it. Who knows? Maybe the next fad will be smoking dry apple skins.

JAMES D. SEWARD
6034 Campus Drive
Dearborn Heights, Michigan 48127

Freon 12 is, as stated, harmless and nontoxic. So is water—but that doesn't mean you can't drown in it. The freon simply displaces the oxygen; the bonehead who tries it gets an acute case of anoxia, has hallucinations, and may or may not, depending entirely on luck, oxygen-starve his brain (alleged) beyond the point of no return.

The gas isn't harmful—but lack of oxygen is.

Dear John:

I was absolutely fascinated by Will Jenkins' story of his invention —because for the last two months Stanley Kubrick has been using it on the largest scale yet in "2001: A Space Odyssey." When Stanley told me about "Front Projection" my immediate reaction was "What crazy nut invented *this*?" I might have guessed it would be a S.F. writer . . .

I gather that our use is the first time in CINERAMA: the enormous screen of back-reflecting material cost about $15,000. The projector was specially built for 8 x 10 (I think) color transparencies shot in South West Africa. I've seen the results—they are completely convincing.

All this, incidentally, is for a very difficult sequence showing the origin of *Homo sapiens,* circa 3,000,000 B.C. Sorry I can't show you any stills; there will never be any. Stanley won't allow this sequence to be photographed.

After my comsat contretemps, I also sympathize with Will over his patent problems. (It's no coincidence that *another* S.F. writer, Ted Thomas, has beaten the drum for both of us!) At least I can promise him a seat at the *premiere* around Easter . . .

ARTHUR C. CLARKE

"Applied Science Fiction" applied to science fiction—completely appropriate!

Dear Mr. Campbell:

I read with interest your editorial in the July issue, and would like the privilege of conveying some of my thoughts after I read your editorial. Being only twenty, and presently serving in the Army, it is quite possible of course that I may be prejudiced concerning these matters.

I will not quarrel for a moment

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with the reasoning that at eighteen a person is not mature enough to vote. This is difficult for me to determine. My argument in favor of allowing eighteen-year-olds to vote is simply this: legislation must be a two-way street.

To explain: Presently eighteen-year-olds—males—are subjected to a highly undemocratic process; namely conscription—granted AT TIMES it may be a necessary evil at best. They are also considered mature enough to pay taxes, and in fact, to die "for their country" before they reach the age of twenty-one. A very high proportion—I suspect a majority—of those killed here in Viet Nam are under twenty-one. Thus those under the age of twenty-one are expected to help support the nation financially, and to bear the brunt of the nation's dirty-work, namely to go to war, but are denied the privileges that should accompany such responsibility.

Those old enough to die, supposedly defending their country, are old enough to vote in its elections. (Naturally this type of arrangement is highly convenient for certain politicians: namely that those affected by legislation cannot have a say in it.)

Further, GIs under the age of twenty-one here in Viet Nam are not permitted to purchase liquor, I presume because again they are not deemed mature enough; but naturally their maturity is not at question when they absorb bullets for their country.

Certainly, if females are to be given the right to vote—before men!—they too must be subjected to military service, as in many other countries. With equality comes equal responsibility.

You also mentioned demonstrations, et cetera, as the equivalent of a child kicking Mother in the shin. While deliberate destructive violence is hardly justified, peaceful expression of opinion is certainly in order in America, and in my opinion, highly desirable. No one must agree, or should have to, with any of these expressions, but those who wish to express themselves in public, as to their feelings on a certain issue, have every right to.

In fact, I would rate any person who is willing to speak out against something he honestly does not believe in, or to speak out in favor of something he believes in, as far above the majority of complacent Americans who, if something does not affect them, generally could care less.

Granted there comes a point when complete or extreme democracy becomes anarchy and chaos, which of course would be detrimental to everyone. But this obvious fact does not justify attempted abridgments of the constitutional freedoms of speech, as some members of our government have recently attempted to do in one way or the other.

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The reason so many conventional values have been, in recent years, questioned and/or rejected is because holes are seen in them, and it has become obvious that only tradition has kept them alive; or the long view of life proves them unsatisfactory or empty. Many young people today are searching for more meaning in life than many American adults today accept. Possibly they will never find it, possibly it is not there to find, but irregardless, they are searching for it. As humans have always striven for something better, this is not particularly unusual.

Too many people have seen through the superficial gloss of our society, and have rejected many of its values, which is their privilege, as long as they do not harm others in the process. Riots and hate are not rejections of ideas and a search for something better, but willful destruction of lives and property which is totally intolerable.

PFC DAVID L. BATE

I have a suggestion that might help to solve the whole problem: "No representation without taxation!" All those who are wise, understanding, and responsible enough to have an EARNED annual income great enough to pay income taxes, and ONLY those—regardless of age —shall vote. Dopes don't vote, and really competent five-year-olds do. And it's not a matter of opinion—not "What do you say?"—but "What did you DO?"

Dear John:

Re: Let Sanity Die.

Gee, but it's nice to be living off in cloud-land where you are, getting applauded for all that lovely logic you're pouring out monthly. Not knowing what hippies are about, or that the authorities are running scared, or that something's *happening* that's just not another "beatnik-binge," but a youth-quake getting *unified* all over the country, just like black power is. That the fossilized "logic-machine" you represent is a goner. That in a different way than L. Ron Hubbard ever envisioned people are "blowing their banks" and getting a brand-new look at what the mind was intended to be, and *in fact,* that it is an instrument intended to be a problem-solving device. (*Not* merely a storage bank for the old hates and revenges and injuries!)

I haven't been in your cloud-land, where ESP is just a dream, not for a long, long time, now.

I haven't been sitting back like a nodding old grandfather, saying, "*Tsk-tsk*, look at the naughty children misbehaving, and will they have to pay for their hangovers tomorrow!"

No. I've been circulating. Where the love-ins are, where the happenings are. Where the mind-expansion and the mind-cleansing is going on. *These* are who are going to be in the driver's seat in social science, in politics, in the psychology department in the near future facing us.

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These are the pioneers out scouting the new frontiers to be conquered. *These* are what you have been publishing about, and dreaming about, and imagining about . . . and you're pulling the old rejection game on the action. For shame!

Why, in light of "science fiction becoming the facts of tomorrow" haven't you spotted the signs? You, of all people, *not* knowing *all* the areas of "science fiction" are opening up as the new hunting grounds; not *just* the few narrow channels now "fact."

I'm appalled at your "innocence." LSD! Why not "Let Sanity Descend?"

M. J. NUTTALL

4853 S. Juneau
Seattle, Washington 98118

"I hear what you say . . . but what have you done?" The psychedelics keep proselytizing for their New Road To Heaven—but while they promise great things—what have they done? *Don't talk about creativity—create! Create real-world, objective'y useful things.*

Reminds me uncomfortably of Kipling's "The Banderlog": Something great and noble and new, done by merely wishing it true!"

After thirty-five years in this science-fiction business, I've grown weary of Great New Ideas and Wonderful Theories—from scientists, or from home experimenters. I want to see working results; it's the only test that distinguishes the crackpots from the geniuses.

When you show me something that works at an objective level, resulting from your claimed subjective achievement—then I'll agree that there's something that needs careful study.

Until then—internal convictions, no matter how deeply sincere, have no knowable correlation with Truth. And anyone who becomes convinced that what feels True, is True, is in acute danger of loss of contact with reality, a loss known as "insanity."

Dear Mr. Campbell:

I have always been amazed by the level of science fact presented in science fiction. Your cover and editorial relating to Poul Anderson's "Starfog" were particularly interesting because it is seldom that astronomy and astrophysics—as distinct from astrodynamics and astronautics—are intimately involved in a science-fiction story.

Since I am an apprentice astronomer—fourth year graduate student—working towards my union card—Ph.D.—at a slow but-hopefully-sure pace, I could not help thinking about your suggestions concerning the "red-white-blue" red giant star. It seemed certain to me that the situation that you suggest does not exist, and I have a few arguments that tend to back me up.

1) While it is true that the red giant atmosphere is extended and tenuous, it is very deep and it still

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may contain over one half the star's mass. The opacity of such an atmosphere gets very high fairly quickly—although not as quickly as in the sun where we can only see in to about fifty kilometers depth—and though it may be fuzzy around the edges, it certainly will not allow one to peer down anywhere near to the central regions. Astronomers commonly talk about "optical depth" in a star, rather than real physical depth—this sometimes allows them to scale one model to another more easily—and a crude definition is that for an average photon of a given wavelength, its mean free path will be about one optical depth. The number of photons escaping goes down exponentially with increasing optical depth, so it is obvious that the nature of the escaping photons will be determined essentially entirely by the regions that lie above ten optical depths at any given λ.

A variety of models of differing degrees of sophistication exist today for red giant atmospheres. They all show that for a red giant with an "effective temperature" of say 3,000°K, the temperature at an optical depth of ten will certainly be less than 6,000°K. This means that the photon field emerging from the surface of the star will be characterized by $T<6000$°K. In fact, if the emerging flux is weighted and averaged, the average is $T=3000$° K since that is the definition of effective temperature.

What all this means is that while lots of photons leave the hot central core, characterized by a $10^7 - 10^8$ °K temperature, they can only travel a few centimeters at most. By the time photons are able to leave the surface of our red giant they can travel many kilometers in the star, but they are now characterized by our nice low "effective" temperature.

2) There is a variety of observational evidence to back up the theory. Energy distribution measurements, and spectra of red giants show that the distribution is similar (but not identical because of blanketing absorption from lines and bands—mostly of molecules such as H_2O, TiO, SiO, and other things that you mentioned) to that of a black body. No hint exists of two, overlapping, black body distributions.

Also, some giants exist in eclipsing binary systems where one gets to see a scan over the disk of the star during an eclipse. Although star spots have been detected by these observations, no envelope core structure is evident for red giants.

Finally, interferometer measures of red giants—including Betelgeuse—can indeed resolve structure, but show no evidence of the suggested envelope-core configuration.

Please understand that I am not writing as an irate scientist, indignant because some outsider has dared to enter my realm. I am flattered and pleased that you have

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been thinking and reading as much as you obviously have been in the—I think—fascinating fields of astrophysics and stellar evolution. You may even be nearer correct than I presently believe and I would be happy to hear your comments on this letter. I do not have time to go into some other factors of stellar evolution which you touched on in your editorial, which could use some amplification or clarification, but perhaps in a few weeks I will have time.

High metal content globular clusters do exist, though we do not know why. An example is 47 Tuc. Maybe that's STARFOG.

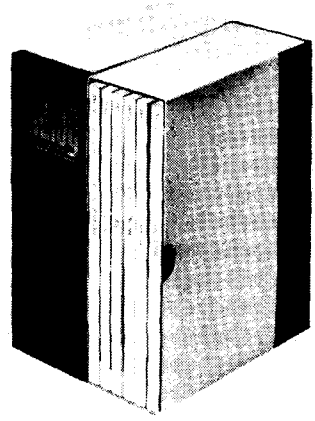
One thought I would like to leave you with is: what will happen when you start your helium core burning in a degenerate region where the increase in temperature *does not* cause a cooling expansion of the core region? Well, the T_c goes up, so the energy output of the He burning reaction goes up, so T_c goes up so E_{out} goes up.

It's called the helium flash, it happens in low mass stars like the sun, and it's not quite a nova but still . . .

JOHN P. OLIVER
Astronomy Dept. MS8105
UCLA
Los Angeles, California 90024

We'll—don't just leave us there, man! Write us an article about it!

My blue-centered red giant suggestion was thrown in for discussion and speculation. Thanks for this added data!



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Long Delayed Recognition

continued from page 7

Marine going into a combat area from flanging up a pair of rods and using them.

So they were flanged up, and they were used, and they did work.

Now a good military commander may be mentally rigid in some respects—he's apt to be quite rigid and simply say "Nuts!" when called on to surrender for instance—but he is *not* a good commander if he doesn't adopt and encourage a technique of combat that works.

The use of dowsing rods for locating VC tunnels, booby traps, et cetera, was reported. (One of the TV news programs carried shots of the rods in use in Vietnam early in 1967.) The tactical research and training groups of the U.S. Marines back in the United States started investigation of the newly demonstrated tactical method, at the Quantico training base. You saw one result of that work in Brass Tacks for March 1967, the letter from Colonel Harlan Trent asking for any available information on dowsing.

Hanson Baldwin's October 13, 1967 report of the use of the rods at Camp Pendleton, California, in the New York *Times* was a later result. The rods are now openly and officially a tactical method of the U.S. Marines. (And obviously the Marines aren't keeping the technique secret from the Army.)

The Marines and the Army are using it for the same old, simply stated reason that is, and forever must be the ultimate reason for any tactical technique: it works.

A military force *must* have techniques that work; explanations are an interesting luxury that men not faced with combat conditions can argue about—so long as the military force has enough workable techniques to protect the arguers!

Now this is a major breakthrough. True, field engineers in many places, in many lines of work, have been using the rods for a couple of decades; there's nothing notably new in this use of the rods.

What is notably new is that the technique is now officially recognized by the U.S. Marine Corps as a tactical technique of major value.

And that it is a technique of great potential is now soundly demonstrated—not "under controlled laboratory conditions" but under *combat* conditions, which is, for any military branch, a damn sight more important. And any totally inexplicable force, power, phenomenon, that can do this one thing with such brilliant success, and with such simple means, *must* have as-yet-unguessed other potentials that obviously must be explored.

If the rods can find VC booby traps in jungle trails, hidden tunnels and arms caches, pipes under paved

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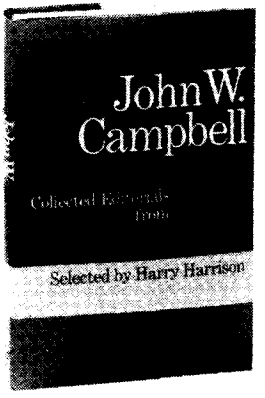

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streets—all of which they do with routine and reliable success—the Navy must inevitably start investigating how they work on locating submarines buried under a few hundred feet of water.

If devices as fantastically simple and cheap as a pair of bent rods can do what multi-kilobuck electronic sophistication couldn't do—can't some more highly developed equipment even further increase their abilities? If the simple rods can detect the slyly hidden booby traps of bamboo stakes and poison—can't some research in the matter find improved techniques that can find Charlie hidden in ambush?

For centuries, people have maintained that dowsing worked; the tactical use of the rods demonstrates that the "folklore, superstition" wasn't baseless—there's something solid enough to yield a tactical technique that *works*.

But dowsers over the centuries have also maintained that some individuals, unusually talented, could do map-dowsing—i.e., they could work from a map, or an aerial photograph of an area, and, hundreds or thousands of miles away, locate water sources on the mapped or pictured property.

Do you think that the possibility of using some such method for lo-

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cating Viet Cong ambushes, or North Vietnamese infiltration bases, isn't worth some research. . . ?

For the first time in human history, there now exists a situation in which the disciplined thinking techniques, and precision-observing techniques of modern science will be applied in a positive sense to the problem of a subjective phenomenon. "Positive," in that the research men will be commanded, ordered, and damn well required to *stop* using their talents to prove it isn't so, because their theories hold it impossible, and find out why it *is* so, because it works. Those scientists who are personally psychologically so oriented that they simply can't accept that notion will be simply brushed aside, and men who can and *will* see what's happening on their own campuses, and *will* sincerely try to understand this new order of phenomenon will be installed.

For the first time, a military arm has definite motivation to have this problem attacked, and attacked with intent to solve, not to dissolve.

Over the years, again and again, I've seen the work of first-rate, scientifically trained minds, happily devoted to proving to the hilt that ball lightning can't exist, and all reports are nonsense. That rocket ships can't possibly leave Earth. That atomic energy couldn't possibly be released within the next two hundred and fifty years. That the positions of the sun and planets couldn't possibly have any effect whatever on Earth's climate, that all astrology was absolute and total nonsense.

These scientific minds have been brilliant, logical, highly trained, and have had vast knowledge and data to work with. They have used their abilities and their talents with enthusiasm, dedication, and vim to prove the absolute impossibility of that which they could not understand, and didn't care to see anyone else try to understand. They have spoken with authority, and massive experience . . .

And they have, thereby, thrown massive roadblocks in the path of any man who did seek to find answers in those Forbidden Unknowns. To attempt experiments in the area was, in itself, sufficient to have a younger man drummed out of the ranks—to blight his career in science permanently.

Well . . . the U.S. Marines have long had a reputation for courage and determination.

That courage is not just physical; it's now evident that Marines also have guts enough to blast their way through the solid opposition of Entrenched Scientific Authority.

So—it's now time to exploit that breakthrough; the lines have been penetrated, and we have a new beachhead.

Dowsing works—and we are, at last, going to get some honest disciplined research in that area of the Forbidden Unknown. ■ The Editor.

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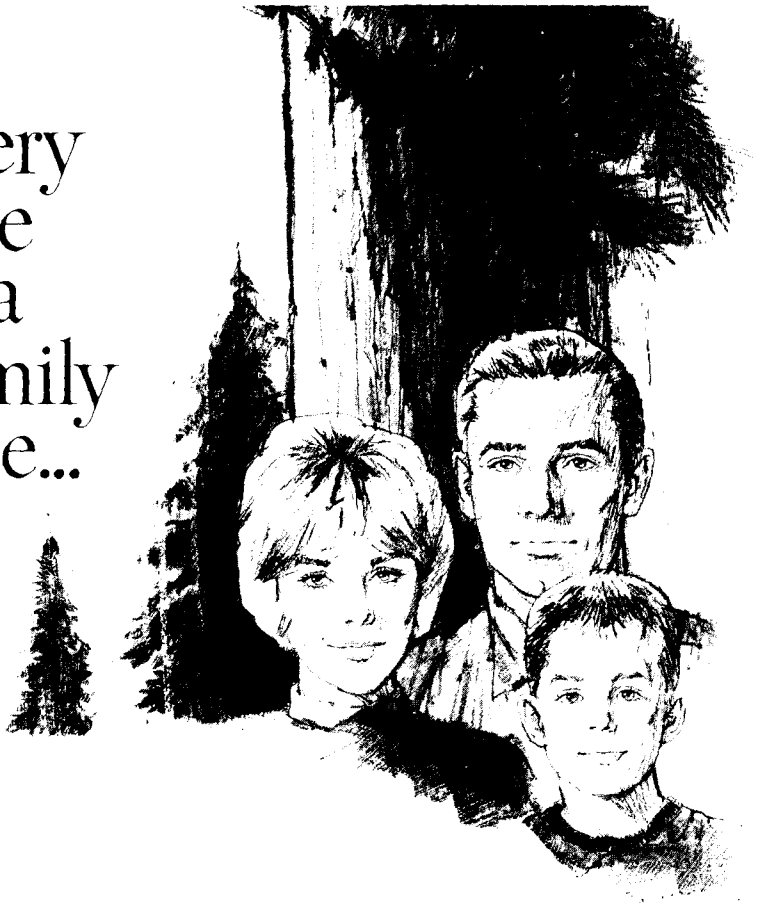
every tree is a family tree...



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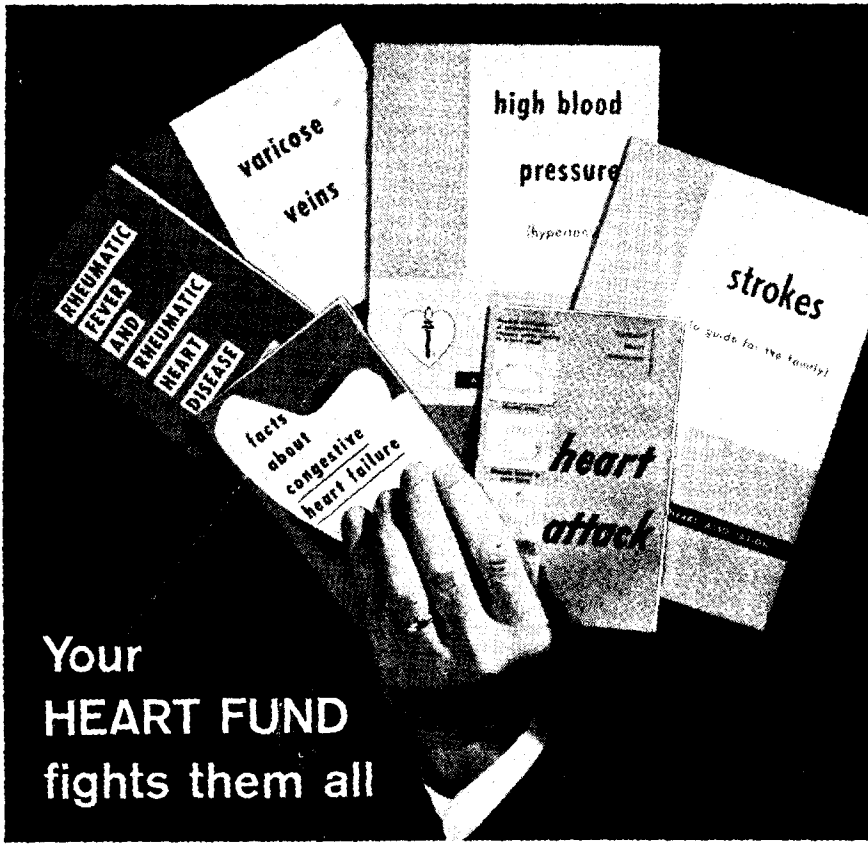

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